AIR TRAFFIC CONTROLLER STAFFING STANDARDS

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BEFORE THE

SUBCOMMITTEE ON
INVESTIGATIONS AND OVERSIGHT

OF THE

COMMITTEE ON
PUBLIC WORKS AND TRANSPORTATION
HOUSE OF REPRESENTATIVES

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AIR TRAFFIC CONTROLLER STAFFING STANDARDS

WEDNESDAY, NOVEMBER 18, 1987

House of Representatives,
Subcommittee on Investigations and Oversight,
Committee on Public Works and Transportation,
Washington, DC.

The subcommittee met, pursuant to recess, at 9:14 a.m., in room 2253, Rayburn House Office Building, Hon. James L. Oberstar (chairman of the subcommittee) presiding.

Mr. **Oberstar**. The Subcommittee on Investigations and Oversight will come to order.

This morning we resume our inquiry into staffing policies and procedures used by the Federal Aviation Administration to staff and operate the Nation's air traffic control system.

Last year the subcommittee examined the FAA's method of counting and reporting on the composition of its controller work force. The testimony then clearly showed that personnel who do not control traffic, air traffic assistants, were being counted as part of the controller work force. Personnel who do control traffic—first-line supervisors, among them—were not being counted. At best, this is a system that makes it extremely difficult to measure with any degree of accuracy the progress FAA is making in rebuilding the Nation's air traffic control system.

During that hearing, witnesses from the General Accounting Office recommended that FAA revise its counting system to include all of those who control traffic and exclude those who don't. The subcommittee felt that made eminent good sense.

The FAA witness testified that the agency would be delighted to revise its counting system for this subcommittee because we understand it, but went on to say that others would be confused, including the public, and therefore, we will continue to count for everybody else air traffic control personnel in the old way and that they would continue to report staffing levels to other Congressional committees the way they had done in the past.

After quite some time of reasoning together and thinking it through by themselves, the FAA changed its attitude. I was very pleased to receive a letter from Acting Secretary Jim Burnley to Chairman Howard of the full Committee on Public Works and Transportation, indicating that the Department agrees that the recommendations of the GAO for the alternative definition of air traffic controller work force should be put into effect.

FAA, says Mr. Burnley, will use this new definition to report onboard strength and to monitor the progress in achieving its staffing goals as well as to plan and budget for future staffing requirements. It is a major step forward, a mark of progress. Unless we could all agree on the terms with which we discuss the matter of air traffic control, unless we can all agree on the standards by which positions will be staffed, we cannot discern whether progress is being made and we cannot agree when problems arise what their causes are or what their solutions should be.

Today's hearing is a further step in the continuing review of staffing. We are going to focus on staffing standards. Standards are a measure of employee hours required to do certain functions. Current staffing standards and accurate ones are extremely important because they form the basis by which the FAA projects its requirements for air traffic controllers each year.

Our purpose here is not to determine any particular magic number or objective for any particular facility in the country. Nor is it our purpose to set up a specific number of controllers overall for the system by which we can say, having achieved that number, the system is now safe and can operate efficiently. Our purpose is to examine the formulas by which the FAA establishes and projects its controller staffing needs, to understand the underlying methodology by which the FAA establishes those standards, and the assumptions on which they base those methodologies so that we can gauge whether the agency really understands what its needs are now and what those needs will be in the future and we can gauge whether they are working effectively to fulfill their goals.

If the assumptions and the methodologies are flawed, the staffing numbers also may be flawed. We want to be sure that as the FAA projects its needs for the air traffic control system, it is using sound judgment, sound methodology, and sound bases upon which to get to that objective.

All in all, we want to be sure that the FAA is building into its air traffic control staffing standards the levels of safety, the cushions of safety that are necessary to operate the Nation's air traffic control system effectively, efficiently, and at the highest possible level of safety.

The Chair recognizes the gentleman from Pennsylvania, Mr. Clinger.

Mr. CLINGER. Thank you, Mr. Chairman.

As you have indicated, today's hearing on staffing standards used by the Federal Aviation Administration to man its air traffic control centers and field terminals highlights a critical need affecting present and future margins of safety in our airway system. More than any other agency, the FAA plays a crucial role in the day-to-day operations of one of the largest and fastest-growing segments of American industry by insuring the safe operation and regulation of our Nation's airways.

Unlike other Federal agencies, the FAA does not have the comfort of time to adjust to new market conditions. Yet, as we all know, commercial air carriers are prone to rapidly shift their markets, devising new schedules, investing tens of millions of dollars in equipment and personnel just to remain competitive in what is clearly one of the more competitive segments of our economy.

Being positioned in such a pivotal role, it is especially critical that the FAA react as quickly and as efficiently as the industry it attempts to serve. Failure to respond to changes hinders the industry's flexibility and potentially undermines the agency's ability to insure a high degree of safety.

This morning's hearing on staffing standards is key to the FAA's ability to adequately to manage and deploy its controller work force. Staffing standards are management tools used to estimate the number and placement of employees in an effective and an efficient manner. It also helps management calculate future needs based upon attrition and traffic growth.

The controller profession requires intensive and expensive training, with a syllabus spanning years of on-the-job training before a candidate attains a full performance level rating. It is, unfortunately, such a highly technical and demanding profession that only a small percentage of those who enter into it actually achieve full performance level during their careers.

Coupled with this consideration are the demographics of today's controller work force. The legacy of the 1981 strike is that we now have a work force of very young controllers and very senior controllers, with few in between. And we are now beginning to face an exodus of the senior controllers as they are taking well-deserved retirements, leaving us with a void of experience in this very critical area.

This morning's hearing will be instrumental to this committee as it attempts to understand the rapidly changing environment of the air carrier industry and its support structure, of which the controller system is an integral part.

The FAA, Congress, and the industry demand that credible staffing standards be implemented to reflect what is happening in the world today and to accurately predict carrier traffic and controller work force requirements in the years ahead.

So, Mr. Chairman, my thanks to you for calling this morning's hearing. I look forward to the testimony from the FAA and from the General Accounting Office. I am optimistic that the information provided during today's hearing will help this committee and the FAA better plan for tomorrow's manpower needs.

Thank you, Mr. Chairman.

Mr. OBERSTAR. I thank the gentleman for those opening remarks, and I want to thank the gentleman for his splendid participation in and support of the ongoing work of this committee.

The gentleman from Georgia.

Mr. ROWLAND. Thank you, Mr. Chairman.

I, too, commend you for this hearing and for looking into this particular aspect of our airspace system.

I am particularly concerned about the increasing pressure that has been brought to bear on the air traffic controllers because of the increasing amount of traffic that we have seen since deregulation in 1978 and the PATCO strike in 1981. There has been an increasing amount of pressure, in my opinion, on air traffic controllers. In fact, to the point, as I understand it, that full performance level controllers now move into that category much sooner than they did prior to the strike in 1981.

It seems apparent to me that the reorganization of the air traffic controllers is a manifestation of dissatisfaction with the way that the system now operates. I think that if they had been satisfied with what was taking place, they would not have been compelled or felt compelled to reorganize.

I also would like to see us look into the aspect of how the Aviation Trust Fund affects air traffic controllers. Also, as you know, we have worked very hard to try to get that trust fund out of the unified budget so that the money could be used for increasing safety in our airspace system. So I think that is another thing that I hope we will see unfold as this hearing moves along.

Again, I commend you very much, Mr. Chairman, for this hearing.

Mr. OBERSTAR. Thank you. The matter of the Aviation Trust Fund has been of very great concern not only to this subcommittee, but to the Subcommittee on Aviation as well, and we will get to that matter in a future inquiry.

Does the gentleman from New York have some opening remarks?

Mr. MOLINARI. Good gosh. [Laughter.]

Mr. OBERSTAR. Mr. Molinari has some remarks. [Laughter.]

Mr. MOLINARI. Speak softly with a big stick. No, just briefly, Mr. Chairman, I would like to emphasize what has already been said. I would hope that as a result of the General Accounting Office study and particularly the references in that study to the pledges of cooperation they have received from the Department of Transportation and from FAA, that we finally can come up with some kind of agreeable formula that makes some sense so those of us who have to make comparisons to determine where we are going will have some accurate measuring sticks.

We haven't had it in the past, and one of our long-standing problems, Mr. Chairman, is that with the changing of definitions and the changing of measuring rules, it becomes more and more difficult to be able to trace where we're going.

I think it looks like we are making a breakthrough now. It's probably a reflection of Mr. McArtor and the style that he is showing, and I feel pretty good about it. So I hope today at this hearing we can get some good news that there is an agreement that can help us to help the system.

Thank you, Mr. Chairman.

Mr. OBERSTAR. Well, I thank the gentleman for his observations and his continuing vigilant pursuit of aviation issues.

Our first witnesses today appear on behalf of the General Accounting Office. We have Mr. Kenneth Mead, Associate Director, Resources, Community, and Economic Development Division, GAO; accompanied by Mary Cheston, evaluator. And, if he has made his way through traffic, Brian McCauley, also an evaluator.

Please come to the witness table.

Raise your right hand. Do you solemnly swear that the testimony you will give before the subcommittee will be the truth, the whole truth, and nothing but the truth, so help you God?

Mr. MEAD. I do.

Ms. CHESTON. I do.

Mr. **Oberstar**. I would like to take this opportunity to express on behalf of the subcommittee our great appreciation for the diligent and painstaking efforts that your entire team, Mr. Mead, has devoted to this project over a period of many months, the time you have taken at incremental points along the way to meet with me, with Mr. Clinger, and with our professional staff to review the elements of progress and the principal highlights of the investigation that you have conducted. It has been most rewarding and a very highly professional and objective piece of work.

TESTIMONY OF KENNETH MEAD, ASSOCIATE DIRECTOR, RESOURCES, COMMUNITY AND ECONOMIC DEVELOPMENT, U.S. GENERAL ACCOUNTING OFFICE, ACCOMPAINED BY MARY CHESTON, EVALUATOR, AND BRIAN McCAULEY, EVALUATOR; AND, HON. T. ALLAN McARTOR, ADMINISTRATOR, FEDERAL AVIATION ADMINISTRATION, ACCOMPANIED BY BROOKS GOLDMAN, ASSOCIATE ADMINISTRATOR FOR ADMINISTRATION; AND NORBERT OWENS, DEPUTY ASSOCIATE ADMINISTRATOR FOR AIR TRAFFFIC

Mr. **Mead**. Thank you, Mr. Chairman. We, too, appreciate the intense attention you have given to this work and the many hours we have spent with you over the past year.

On my right, Mr. Chairman, is Mary Cheston. Mary is the assignment manager for virtually all of our FAA work force work. The missing person on my left is Mr. McCauley, and if he arrives, he will be able to help us greatly because he is the project director on our work on controller staffing standards.

Mr. Chairman, we appreciate the opportunity to testify today on FAA staffing standards for the air traffic controller work force. Our testimony presents the preliminary results of our work for the subcommittee. We will include the final results of our work in a report later next year.

Our testimony today will make three points. First, staffing standards are critical to the process of deciding how many controllers FAA needs and where they are needed.

Second, the current standards have not been validated and fall short of accurately reflecting needs, particularly in providing coverage for peak traffic periods and establishing a training pipeline.

Third, standards that accurately reflect needs would provide FAA with an effective management tool and help restore confidence in FAA judgments about its staffing needs.

Staffing standards forecast the resources needed to accomplish work. They measure the hours needed to perform a function, such as controlling traffic over a period of time, and determine the number of employees needed to accomplish the work.

FAA has an order establishing staffing standards as the basic method of determining and distributing employee resources. The current standards were developed in the 1984 and 1985 period, and they are the fifth in a series of staffing standards. FAA first used staffing standards in the 1960's, but they evolved over the years from relatively simple standards to today's more sophisticated computer models.

FAA uses its standards in developing appropriation requests to the Congress. To project requirements for controllers, FAA headquarters uses two standards: one for terminals; and another for Air Route Traffic Control Centers. Based on historical aircraft activity, the standards generate expected work load. This is done on a facility-by-facility basis. Once the historical work load is calculated, adjustments are made for anticipated aviation growth, work time available per employee, taking into account leave, training, and other special activities.

Finally, FAA headquarters adds to a facility's staffing allocation a number for a training pipeline. Once all adjustments are made, a final staffing standard number is arrived at for each terminal and en route center.

Headquarters sends those to the regions, and the regions, in turn, provide comments to headquarters on the proposed staffing allocations for its facilities. When an appropriation is passed, final allocations are made to the region. Some regions will then further adjust headquarters' suggested staffing for specific facilities.

An important point we want to make today is that staffing standards must be continuously maintained and periodically validated for accuracy. That is because they can become outdated within a year, sometimes even sooner. Although maintenance and revalidation of staffing standards are FAA requirements, we found that FAA has not established a process to do this. The House Committee on Appropriations pointed this out in 1978, when it criticized FAA for not validating its staffing standards.

If FAA does not maintain and validate its standards, it cannot assure that they will reflect actual needs either for the system as a whole or for individual traffic facilities. Congress, in turn, will be handicapped in judging whether Administration budget requests ask for sufficient staff.

Our work shows that because of certain assumptions that FAA uses in its standards, those staffing allocations can understate actual needs.

The current standards represent a fundamental change in FAA staffing philosophy since the August 1981 strike. Before the strike, the approach was to provide a staffing cushion to protect against hard times. With the strike, FAA decided that staffing before the strike was too high. In 1982 FAA shifted to providing a staffing level that would cover average system requirements. The assumption was then made that overtime would be used to cover traffic peaks, prime annual leave periods, and other special requirements.

This shift was implemented by changing the staffing standards. For example, FAA changed the activity day on which terminal staffing would be based from the 37th busiest day of the year, or the 90th percentile day, to the 187th busiest day, which is of course, the average day.

Other calculations also reflect a change in FAA staffing philosophy and result in the standards not accurately reflecting field conditions. Headquarters, for example, bases its staffing allocations for en route centers on an assumption that eight shifts will be worked per day. But the centers that we visited generally used from three to five shifts per day rather than the eight shifts assumed by headquarters. This means that the facilities would require more staff or overtime to handle peak traffic, since they have fewer overlapping shifts.

I will talk for a moment about the training pipeline. The purpose of the training pipeline is to (1) ensure that trained controllers are available when the full performance level controllers leave; and, (2), to provide additional FPL staffing to meet increasing work loads. According to our analysis, FAA staffing standards significantly underestimate training pipeline needs.

The fiscal year 1987 pipeline allowance of 6 percent for terminals and 9 percent for centers was lower than needed to compensate for actual attrition. The average FPL attrition at the facilities we visited was 15 percent for terminals and 13 percent for centers, not counting additional losses of developmental controllers. This results from FAA using prestrike attrition rates rather than recent field attrition.

The pipeline also is not future-oriented, because it does not consider future attrition from retirements nor does it take into account needs for additional developmental controllers to make up for FPL shortages.

The accuracy of FAA's aviation forecasts can also affect the standards. For example, fiscal year 1987 aviation activity was underestimated, and FAA had to amend its 1988 budget request to reflect that. The staffing standards process also cannot react quickly to changes in work load, such as an airline's decision to start a new hub of operations at an airport following, for example, a major merger.

FAA staffing standards have not been as effective as we would like to see as a management tool. Actual staffing does not reflect the standards at many facilities, and our discussions with facilities managers suggest that the standards do not produce estimates that are accepted in the field as accurate. We found that the current standards are not really well understood in the field either at the region or facility level. As a result, the field uses a variety of methods in responding to headquarters proposed staffing allocations.

As an example, only one of the 15 facilities we visited was using a portion of the current standard to estimate staffing needs; the other 14 used different methods.

In one of the four regions we visited, the southern region, both the region and facility managers were using the same method to estimate their requirements. The difficulty was, though, the standard they were using was FAA's pre-strike standard.

There is a sharp contrast between the views of headquarters and field officials on the staffing standard, with headquarters officials describing the staffing provided by the standard as "roughly right," while field managers we visited described them as "generally inadequate." According to most facility managers, they could not operate as they do now if they were staffed at the levels called for by the standards.

I should point out here that they did not say that they could not continue to handle their air traffic load, but that there would be other impacts, such as cutbacks on training, leave, and increases in overtime.

Congressional actions, in our view, have offset some of the problems created by the standards. An attachment to our testimony shows that in fiscal year 1987 the Congress authorized staffing for about 1,100 more positions than the standards called for, and for fiscal year 1988 both the House and Senate appropriations committees are again proposing staffing levels that are higher than those called for by the standards.

But even the levels called for by the Congress may not be sufficient to meet the needs of each facility. For example, four of the 15 facilities we visited were selected because they were staffed above the standard. But according to three of the facility managers, additional resources are still needed, because overtime expenditures continue at high levels, and new work load has not been factored into existing authorizations.

We believe FAA would have experienced more serious impacts, including increases in overtime, reduced levels of services, and flight delays if Congress had not authorized more staffing than had been requested.

In summary, FAA needs staffing estimates which managers and controllers agree reasonably approximate actual needs. Reliable standards would greatly assist the Congress in deciding on the appropriate levels of funding.

We believe FAA needs to do three things to put itself in the position where the Congress can rely on its judgments about controller staffing. The first item is that the standards need to be revised to better reflect the staffing levels managers need to operate their facilities.

The second item, FAA needs to inform the field more effectively about its staffing process, as well as incorporate field needs and perspectives into that process as appropriate. That would enhance, in our view, the standards' credibility and use in the field.

Finally, FAA needs to develop a formal validation process to ensure that its standards are accurate and current, and a formal feedback process to ensure adequate staffing at the individual facilities.

Please note that FAA has taken several initial steps to improve its standards. It is now reassessing the terminal staffing standard as well as procedures for calculating controller pipeline needs.

That concludes our prepared statement, Mr. Chairman. We will be pleased to answer any questions you may have.

Mr. OBERSTAR. Thank you very much, Mr. Mead. We greatly appreciate this summary. Like all the work that GAO does, the prepared statement and the delivered statement is only the tip of the iceberg of a very large and prodigious effort.

I imagine it must give you and your associates some satisfaction to hear the statement from Acting Secretary Burnley supporting the GAO recommendation and that of this committee to count the controller work force as we have recommended, including those who do control traffic in that work force and excluding those who don't.

Mr. MEAD. That it does. We have a good working relationship, we believe, with FAA and the Department, and we see a real commitment here to informing Congress of what the numbers are so you can make appropriate comparisons and funding decisions and so forth.

Mr. **Oberstar**. That admission and that recognition is an important step in our total effort, the joint effort, that GAO, FAA, and this subcommittee are making to measure that controller work force and to measure progress towards maintaining and improving safety in the airways.

In your testimony, I think one of the most compelling statements is that on page 5, "We believe that this FAA approach provides only the minimum staffing levels needed to meet the requirements of both the air traffic control system and its personnel."

That statement shows what repeated hearings before this subcommittee have demonstrated and repeated inquiries by GAO, that for some 6 years subsequent to the strike, the philosophy of we can do more with less has guided the FAA in its staffing and in its management of the air traffic control system.

That management attitude needs to go the way of the dodo bird and other extinct species, and I think the testimony we will receive later indicates a change in the attitude on the part of FAA.

Operating at the minimums is not operating at the level of safety the air traveling public deserves and contracts for when it signs and buys a ticket. What have been the consequences of shifting the staffing standard from the 37th busiest day to the 186th day?

Mr. **Mead**. Significant increases in overtime have been one consequence. That shift was done at the terminals, out of the terminal standard, and you can look at the overtime figures and there are significant increases. Overtime may be a crude indicator, perhaps, but it is certainly one indicator of a problem, an area of concern.

Mr. **Oberstar**. It is one incontrovertible indicator, at any rate. In 1985, I think the numbers that GAO provided to the committee indicated that air traffic control overtime was 907,946 hours, costing $28.3 million.

Mr. **Mead**. Yes.

Mr. **Oberstar**. In 1986 it was 663,714 hours, costing $18.2 million. A drop of a very considerable amount.

For fiscal year 1987 the numbers are back up: 710,188 hours, and $19.3 million in overtime.

Mr. **Mead**. Yes. And the biggest increase is in the terminal staffing. For example, at centers, the en route centers, the overtime went down between 1986 and 1987, but at terminals it is continuing to go up, and the result is a net increase in overtime system-wide.

Mr. **Oberstar**. And that increase at the terminals is unevenly distributed around the country. There are some areas that are experiencing substantially higher amounts of overtime than others. Is that correct?

Mr. **Mead**. Yes, that is correct.

Mr. **Oberstar**. Is there a direct relationship between staffing standards and the amount of overtime worked?

Mr. **Mead**. Yes, there is a correlation. We can't say exactly what it is. We would defer to FAA for that.

One of our recommendations on validating and maintaining controller staffing standards goes to that issue, Mr. Chairman, that if you go back in and you look to see if you're having problems with increasing overtime, perhaps your staffing standard is spinning out numbers that are inappropriate.

Mr. **Oberstar**. Another factor that you raise, that is very disturbing, is the standard is based on an assumption of an eight-shift working day, and yet in your review of facilities, you found that terminals in many instances were working in actuality three shifts. That means that you are compressing more workload onto fewer people to a narrow spectrum of the day and increasing the stress on controllers.

The question is, in your discussions have you found that headquarters FAA aware of that disparity?

Mr. **Mead**. Mary.

Ms. **Cheston**. Well, I would say that we made FAA aware of that in our discussions at the close-out of this assignment. FAA is considering changing to a three-shift work load for some other reasons related to the increase in operational errors that they have been experiencing. But I believe that when the allocations were initially based on eight shifts, it was done for purposes of trying to get the field to maximize their utilization of staff. Unfortunately, we think they did a very poor job of indicating this need to field facility managers, and in some cases it is just impractical to work more than a three- or five-shift schedule.

Mr. **Oberstar**. On page 6 of your statement, "FAA's controller staffing standards have not been effective as a management tool. There is little understanding of the staffing standards process outside of FAA headquarters."

That relates to the point you just raised. What are the consequences for various facilities who have differing needs in different parts of the country if they don't understand the staffing standards process? And if, as you say, the actual staffing does not reflect the standards, if they have established a standard and then don't adhere to it, what are managers to do and think, and how do they react?

Mr. **Mead**. FAA headquarters needs to take into account better actual field conditions and reflect those in its standards. The eight-shift/three-shift issue is a good example. There are some other examples also, such as work load increases, spurts of increase in air traffic activity where you have to look to the facility as the primary source of the information, and if your standards don't take that into account, the number that you are going to get in a staffing allocation is going to be inappropriate.

Again, the effect of all this has been mooted somewhat by congressional actions which have directed increased staff over those contemplated by the staffing standards.

Ms. **Cheston**. I would also add, probably in terms of what the impact is on a field facility manager, there is a great deal of frustration. There is a sense that headquarters does not listen and that in submitting requests that are based on what that manager believes are his actual needs, that it's falling on deaf ears. So there is a response when we discuss what the staffing standards allocation should be of "They can't really be serious. That is not sufficient for me to operate this facility."

Mr. **Oberstar**. How do they compensate then when they don't have adequate numbers and adequate personnel?

Ms. **Cheston**. Regions are really making a lot of the adjustments for facilities, particularly for busier facilities, by, in a sense, taking from lower-level-activity facilities some of their staffing and giving it to some of the bigger facilities in order to compensate for the deficiencies.

Mr. **Oberstar**. When you have guidelines, I think it's a very basic principle of jurisprudence or government that if you have standards or laws that are not understood or that are not accepted, you have widespread disregard of those laws or rules or regulations. That is not good. If you need to have the highest level of morale, it seems that you have to have the highest level of understanding and acceptance and concurrence in the system that is established.

I see Mr. McCauley is here.

Would you like to take your place at the witness table?

Mr. **McCauley**. Thank you, Mr. Chairman.

Mr. **Oberstar**. Raise your right hand. Do you solemnly swear that the testimony you will give before the subcommittee will be the truth, the whole truth, and nothing but the truth, so help you God?

Mr. **McCauley**. I do.

Mr. **Oberstar**. Thank you.

The Chair will suspend further questions on his part at this point. I want to limit members to 10 minutes each so that we can get at least one round, hopefully two rounds, of questions, and then we will move on to our next witness panel.

Mr. Clinger.

Mr. **Clinger**. Thank you very much, Mr. Chairman.

Thank you, panel, for your input into our deliberations here. I am interested that you indicate that there appeared to be very little consultation between headquarters and the facilities in the establishment of these standards. Is that right? Was there a general feeling out in the facilities that they had not really been involved in setting the standards?

Mr. **Mead**. They didn't understand the standards. And secondly, their involvement comes after they receive a number from headquarters that this formula drives out. Before the strike it was a different type of approach; it was a bottoms-up approach where the individual facility managers at your en route centers and terminals would give the input into headquarters and say, "Here is how many people we need." The situation now is—the reverse may be too strong a word, but it will do for our purposes here.

Mr. **Clinger**. It's driven from the top down now rather than from the bottom up?

Mr. **Mead**. Yes, sir.

Ms. **Cheston**. And when FAA originally developed the standards in 1984 and 1985, there were representatives, working controller representatives, who advised the contractor and FAA headquarters personnel on such things as how much allowance should there be in the standard for annual leave, how much training, how much time is spent on details. So there was some limited involvement on the part of perhaps 20 or 30 controllers in the facility working groups.

Mr. **Clinger**. Practitioners. And that is no longer the case? In other words, they would not have been involved since 1985?

Ms. CHESTON. That has not been changed since the 1985 standard. As part of the reassessment that is underway they have named a similar group of participants.

Mr. CLINGER. Of course, it is probably also true that facility managers perhaps would request sort of the maximum or the optimum for their particular facility?

Mr. MEAD. That is one concern we hear, that the people operating the facility may request more.

Mr. CLINGER. Inflate their needs, really?

Mr. MEAD. Yes. Our view on that is FAA could establish internal controls to safeguard against that. But that field input is quite critical, and it is needed early in the process.

Mr. CLINGER. And that it was not sufficient in the establishment of the standards that are presently in place?

Mr. MEAD. Well, each year, on a yearly basis, you need that input.

Mr. CLINGER. I wonder if in your visits, whether the FAA is doing anything about the age gap, where we now have a tremendous number of people going out of the system and the very young people at the one end but very few in the middle. Is there attention being paid to this phenomenon?

Mr. MEAD. Yes. The training pipeline issue is being addressed by FAA. They, too, it is our understanding, recognize that as a problem.

Mr. CLINGER. And do you think they are addressing it adequately at this point?

Mr. MEAD. I am not certain how far along they are in addressing that.

Mr. CLINGER. We talked a little bit about the overtime and the increase in the amount of overtime required. Should the standards reflect the need for overtime, or should the standard be based on no overtime?

Mr. MEAD. There will be some overtime in any system. That is tolerable, probably even desirable from the standpoint of the employees.

Mr. CLINGER. Given the very high stress that is involved in this job, though, there should be some limit.

Mr. MEAD. Yes.

Mr. CLINGER. At least the standard should reflect that, I would think.

Mr. MEAD. Absolutely. Some judgments have to be made here about what is the tolerance level on overtime. It is not reasonable to simply say, "Well, peak traffic will always be handled by overtime." If one makes those assumptions, then you get the overtime figures we have here, which clearly seem in excess.

Mr. CLINGER. In other words, the standards that you looked at permitted or required, really, more overtime than you would consider to be acceptable?

Mr. MEAD. Yes.

Mr. CLINGER. Just so I understand, would the standards that we are talking about here apply to all facilities regardless of level of activity, or are they divided by level of activity?

Mr. MEAD. They are facility-specific standards. For example, at the Atlanta en route center, the standard will give a number to the

Atlanta en route center, and similarly for the Chicago terminal, you get a number of each facility. That number considers air traffic growth for that facility. We believe that is quite important. That is a good, positive feature of the standards, that they are at least facility-specific.

Ms. **Cheston**. In terms of the formulas themselves, I might want to add that the formulas are based on the level of facility, so that the same formula would be used, for example, for all level 5 terminals. However, there might be variation in the input values, such as the value for aviation growth that would be facility-specific. But there are essentially for the five levels of terminals, five different formulas.

Mr. **Clinger**. Sets of requirements. And do you feel that that provides enough flexibility, given the rather dramatic variance between facilities?

Ms. **Cheston**. I believe that as part of the reassessment, FAA is prepared to look at that question. There does seem to be a need, perhaps, for a variation in formulas for TRACON's as opposed to terminals. There may even be a need for variations within levels of facilities because within levels some of your higher activity airports have very different activity levels. So we could be talking about a series of formulas.

Mr. **Clinger**. Why has the agency not revalidated its center staffing standard to ensure that it is current? I gather that in your testimony you indicate it is not current.

Mr. **Mead**. We received two reasons for that. One was funding constraints.

The second was that things were in a state of flux in the system. You had more trainees than you had ever had before, and did it really make sense to validate it? Our point on that is that a staffing standard has to be a living type of instrument, something that you need to look at periodically year by year. And that isn't being done.

Mr. **Clinger**. It should be on an annual basis; is that it?

Mr. **Mead**. Yes. In fact, FAA's own requirements call for every two years for the standard to be revalidated with six months for there to be an updating plan submitted. And neither of those requirements are currently being met.

Mr. **Clinger**. Not currently being met.

Thank you, Mr. Chairman.

Thank you, panel.

Mr. **Oberstar**. Thank you.

One question before I go on. In the establishment of staffing standards, does the FAA include the ATA's, the air traffic assistants, or is the formula restricted to actual controllers?

Mr. **Mead**. It includes ATA's.

Mr. **Oberstar**. It does include ATA's?

Mr. **Mead**. And that is important. They need to know how many people they need there at the facilities. ATA's, while they are not controllers, they do perform an important function. Although it's administerial or clerical in nature, at one time controllers did it.

Mr. **Oberstar**. That is true. I will pursue that matter further with you later.

The gentleman from Georgia.

Mr. **Rowland**. Thank you, Mr. Chairman.

You said that there were some fundamental differences in the philosophy of the standards prior to 1981 as compared to the standards since the PATCO strike. Were the staffing standards ever assessed prior to the PATCO strike; and if so, what is the difference between the current standards and those prior to the strike, in your opinion?

Mr. **Mead**. There are several key differences. The standards that were in effect before the strike, first of all, there were positions in operation and hours of operation, meaning how many controllers during a peak period of traffic on that 90th percentile day, how many positions were in operation and how long were they in operation on that peak day? The facility managers would provide that information to headquarters. That is different now. They don't use the positions in operation and hours of operation approach.

Secondly, the pre-strike standards assumed more people operating, controlling a given amount of airspace than is assumed today. The pre-strike standards assumed a three-shift day. Current standards assume an eight-shift day and they assume 2.5 people per position instead of the former three. And when you multiply that throughout the system, you get considerably different numbers.

Another thing—I believe this is a positive development between the pre-strike and the post-strike—pre-strike they would take a national forecast of aviation growth and apply that as the facility—to decide how much of an increase the facility should get in their staffing. They have made an improvement in that, and the staffing standard now makes facility-specific traffic growth. That is a refinement, certainly, on the positive side.

Mr. **Rowland**. I assume, then, that you did not find much positive other than that?

Mr. **Mead**. No. And I neglected to mention also one other big change in the en route center standard. They reduced the number of sectors.

Mr. **Rowland**. Reduced what?

Mr. **Mead**. The number of sectors——

Mr. **Rowland**. OK.

Mr. **Mead** [continuing]. Of airspace that were controlled changed from pre-strike to post-strike. Now, though, they are on their way back up to coming close to the pre-strike level.

Mr. **Rowland**. And that is positive, in your opinion?

Mr. **Mead**. Yes. But it also needs to be reflected in the standards.

Mr. **Rowland**. All right. In your opinion, were sufficient funds available to the FAA, or are sufficient funds available to the FAA now, to maintain high standards in staffing where it should, at the level that it should be? Are funds playing any significant role, or can you make that assessment?

Mr. **Mead**. I am not in a position to say that. I would just observe that I think requests for staff are treated favorably here on the Hill, certainly during the past couple of years.

Ms. **Cheston**. I might just suggest that you direct that question to Mr. Goldman because it has been a concern that was raised by FAA staff that they really have not had the sorts of resources on the management systems side of the house to provide that service to air traffic in terms of continually validating and maintaining the standard.

Mr. ROWLAND. Former Secretary Dole had called for an additional 750 air traffic controllers. Can you tell me whether or not, in your opinion, she did this in response to staffing standards, or do you suppose she did this because of repeated calls on the part of the Congress to increase the air traffic controllers? You are smiling at that question.

Mr. MEAD. I think there came to be a recognition that an increase in staffing was needed and that it would continue to be needed in view of the aviation growth figures. Those growth figures changed dramatically from a 2.8 factor, 2.8 percent net growth factor at the beginning of the year, to 5 to 6 percent net growth factor when Secretary Dole made her announcement.

Mr. MOLINARI. Would the gentleman yield on that?

Mr. ROWLAND. I will yield to the gentleman.

Mr. MOLINARI. I would just like to make the observation for the record that by Mrs. Dole's own public statement, the reason she put a request in for additional controllers at that time was because she said her department had underestimated the increase in traffic. So I think that is clear and specific on its face.

Thank you.

Mr. ROWLAND. Thank you.

Well, let me say that the GAO has done a tremendous amount of work, I think, with respect to the controller work force. And I know that you don't implement the staffing standards, but can you just tell me what is your feeling about how many controllers are needed now, and how short are we on the number of controllers?

Mr. MEAD. Well, I am not going to commit the same offense that we are criticizing the FAA for. We are calling here for a staffing standard that accurately reflects needs. If I were to pull a figure out of my pocket, I think I would be contradicting the message of my testimony today. I don't know how many they need. It may well be that before the strike they were a little fat in places, as they say. But we won't know the answer to that until we get a credible staffing standard that is supported in the field as well as headquarters.

Mr. ROWLAND. How does that 15 percent attrition rate of controllers compare with the pre-strike period?

Mr. MEAD. Not well. Before the strike, it was about a six to nine percent rate. Now it's considerably higher. When we say attrition, that includes factors other than retirements. It includes, for example, promotions of a controller to a position where perhaps he is no longer controlling traffic.

It also takes into account attrition from one facility to another facility, and we pointed out in our statement that you can't bring in a developmental controller and say, "Okay, you'll replace this full performance level controller that is no longer on your rolls." It just doesn't happen like that. You need a considerable time line to bring them up to speed.

Mr. ROWLAND. One final question about the training. As I understand it now, the person may become an FPL within three years or so, and prior to the strike it was five years. I have heard that there may not be enough seasoned air traffic controllers in some centers.

Could you make a comment on that as to the length of training and the fact that there may be a deficiency of seasoned controllers or experienced controllers?

Mr. **MEAD**. Brian.

Mr. **McCAULEY**. Mr. Rowland, during our visits to the various field facilities around the country—and as Mr. Mead pointed out in his statement, we visited 15 facilities in a number of regions—we had the opportunity to conduct interviews with controllers, first-line supervisors, and traffic management coordinators. The point that you are making about training was very strongly expressed to us as a concern by a good number of the people that we interviewed, not only in terms of seasoning but in terms of the amount of training that they're getting and the quality of that training.

I think that to put it in some of the words that were expressed to us, developmentals are pushed along, are helped along. And this is a concern expressed by the controllers, supervisors, and traffic management coordinators at the facilities.

To be on the fair side, in discussions with the facility managers, their point of view is that they would like to get as many people qualified as soon as possible in order to increase their flexibility in terms of scheduling, in terms of being able to handle the traffic that they need.

Mr. **ROWLAND**. Are they being moved along too fast?

Mr. **McCAULEY**. It is the opinion of a lot of the people that we interviewed that they are, yes.

Mr. **ROWLAND**. Thank you, Mr. McCauley.

Thank you, Mr. Chairman.

Mr. **OBERSTAR**. Thank you, Mr. Rowland.

The gentleman from New York, Mr. Molinari.

Mr. **MOLINARI**. Well, I would like to pick up on that for a moment because I think it is a very important point raised by the gentleman from Georgia.

When we are comparing numbers of controllers today to controllers before the strike in 1981, we are really talking about a very different ballpark in terms of the experience of the people involved. Perhaps it is just as important in factoring that in as are the sheer numbers, because numbers can be very, very misleading.

I am pleased that the gentleman raised that point.

The issue of whether controllers are being moved along too fast is one that has been raised all over the country. Of course, if they are, that means that we may have people working at the boards when they shouldn't be.

Let me turn, if I may, to your report issued last month and try to review with you a couple of items. I thought that last year at a similar hearing we had a concession from Admiral Engen that he was going to drop from the controller work force the air traffic assistants in response to a question that I posed to him and then the Chairman picked up on.

Did you not, in your preparation of the study, get any indication that in fact an agreement had been reached with our committee and with FAA that that would be done?

Mr. **MEAD**. There appeared to be an offer from FAA to report the figures, numbers, one way for this committee and another way for the House and Senate appropriations committees, who, Admiral

Engen indicated, had become accustomed to the inclusion of the ATA's in the definition.

I don't know if this committee—I know, very recently you do now have figures that exclude the ATA's from the controller work force and move into the figures the people that do control traffic but who had not been previously included in the controller work force definition.

But before that, I don't know if the committee received such a communication from Admiral Engen or not. It was only recently that we were informed by the department and the new administrator at FAA that it made sense to formally change the approach.

Mr. **Molinari**. Okay. Now, if I may, let me review with you what you are suggesting as a definition on your Appendix I and II. I take it that this suggestion is something you received some preliminary approval from FAA on.

Mr. **Mead**. Yes, sir.

Mr. **Molinari**. OK. So, what you are proposing to do in Appendix I is to drop ATA's.

Mr. **Mead**. From the definition.

Mr. **Molinari**. From the definition. But you are proposing instead to include developmental controllers who are at grade levels GS 11, 12, and 13. At that job-level performance, you would include those but not others who were in the academy, et cetera.

Mr. **Mead**. That's correct.

Mr. **Molinari**. OK. There would be a drop then in the category of developmental controllers from 3,761 to 2,901.

Mr. **Mead**. Yes.

Mr. **Molinari**. By that device. And you would be dropping 1,514 ATA's, but in fact picking up 1,751 first-line supervisors.

Mr. **Mead**. Yes, sir.

Mr. **Molinari**. So, from their standpoint, the numbers are increasing by that trade-off, if you will.

In an effort to come up with an accurate figure of controller work force, now you're saying we should include supervisors because after all they do act as controllers, some 10 percent of their time. But we have had other figures where it's as much as 20 percent of their time.

Mr. **McCauley**. The 10 percent figure, Mr. Molinari, is a minimum figure.

Mr. **Molinari**. Is a minimum figure. OK.

What is the average controller working the boards per shift, how many hours would that average controller be working today?

Ms. **Cheston**. You should probably ask FAA that question.

Mr. **Molinari**. I will.

Ms. **Cheston**. There has been an attempt on the part of the Administration to increase the hours that a controller is working on the boards. The numbers we found in our facility visits vary significantly from facility to facility. So, in terms of an average systemwide, we just would not be in a position to respond to that.

Mr. **Molinari**. All right. We have heard that in an eight-hour shift they work some 5.5 hours at the boards. We do know there are tremendous differences. We do know that the FAA has a policy of an hour and a half at one sitting, whereas in some cases they're working 2.5 hours without a break.

The point I am trying to make is this: Would it not be more accurate to try to average out the amount of time that supervisors work as a controller instead of crediting a supervisor who may work 10 percent of the time or who may work 20 percent of the time as a member of the controller work force? Wouldn't that give us a better gauge of the actual numbers? If, for example, you have three or four supervisors doing the equivalent work as a controller, then we should include three or four as one rather than three or four. Are we not coming up with a figure that may throw us off?

Mr. McCAULEY. Mr. Molinari, what you are saying is true. However, that has to be balanced against the time and effort that would go into accumulating that data in a centralized fashion. Right now, as far as we know, that data is available on a facility basis, but it is not available on a centralized basis in FAA headquarters—that is, the amount of time that first-line supervisors and traffic management coordinators assume a controller position.

Mr. MOLINARI. I understand your point. I am certainly not suggesting that we refine this to such a finite degree that we hit within a thousandth of a fraction. I am just suggesting that there should be some allowance made because again what we are doing here is we are including the number 1,751 in the controller work force, and while it's true they are in work force and controlling traffic, it is maybe 10 percent, one-tenth of the amount of controllers.

If we are going to come up with new staffing standards and new guidelines and new definitions, I would like to see once and for all if we can come up with something that is reasonable and can be put in place and not change in the future so that we could make true comparisons years from now.

Mr. MEAD. At the present time, FAA does not have in its staffing standards the traffic management coordinators or the first-line supervisors.

Mr. MOLINARI. Yes.

Mr. MEAD. Certainly, as they revisit this standard, they should consider including the requirements for first-line supervisors and traffic management coordinators. We would agree with that. Perhaps at that point they would be in a better position to tell you how much of their time would properly allocable to air traffic control duties.

Ms. CHESTON. I believe also, Mr. Molinari, that field facility managers would say that it is to their benefit to get the definition of the work force changed because they honestly believe that traffic management coordinators and first-line supervisors are not overhead and that they are part of the mainline first-line operational requirements of the facilities.

I think that the field would be happy to see the definition changed because it would provide them perhaps greater assurance of being able to fill those positions in the event that budget cuts or other types of constraints impact a facility manager's staffing.

Mr. MOLINARI. That is exactly my point, and I am delighted you said that, because I think it becomes critical to FAA, to those of us who are involved in the oversight process, and to those who are responsible for the budgetary answers here in Congress.

I have just one last question. I am sure my time has expired.

Prior to the strike, when the controllers were working a position, you had a single controller working a position and you had a backup hand-off controller. In most cases, that hand-off controller is no longer with us. We don't have them anymore.

Has there been any discussion in your review of this work as to whether that should be included in the standards being studied today?

Ms. **Cheston**. I believe that FAA recognizes, particularly in the terminal radar environment, that there is a need for hand-off positions and is reassessing the standard which now only generates a one-person staffing requirement. That is something that they are going to try to address.

For the center environment there is an allowance for a hand-off position or a coordination position. They have gone back to allowing for that as opposed to what they have done in the terminal environment. Yes, they do think that is appropriate.

Mr. **Molinari**. Well, I would like just to expand that answer a little, if I may. At the en route centers, the center positions, it's your understanding they have made allowances for the hand-offs? Are you saying to the degree that it existed before the strike in 1981?

Ms. **Cheston**. Very close, but not necessarily at the three-position level for all facilities. FAA has changed the method for estimating staffing so that it is no longer driven by sectors and the manning of sectors. I think that the difference you might hear in the field is that a facility may not have that number of people to provide for the hand-off staffing, but the standard itself does generate a requirement for that person.

Mr. **Molinari**. Thank you.

Thank you, Mr. Chairman, for your patience.

Mr. **Oberstar**. I thank the gentleman for that very important line of questions.

The gentlewoman from New York.

Ms. **Slaughter**. No questions, Mr. Chairman.

Mr. **Oberstar**. The gentleman from New York.

Mr. **Towns**. No questions, Mr. Chairman.

Mr. **Oberstar**. The gentlewoman from Connecticut.

Mrs. **Johnson**. Very briefly, one question.

You talk about staffing standards as a management tool in trying to create some process by which these standards can be constantly validated and updated. That seems to me a very, very important problem because we are facing a high number of retirement possibilities at some centers that are extraordinary.

Is that currently factored into the whole staffing standard issue; and if not, how do you propose that it be factored in so there can be a gearing up for replacement demand that doesn't seem to now exist in the system?

Mr. **Mead**. That is correct. The current standard does not adequately take into account the retirement issue or the overall attrition issue and, we believe, for reasons other than retirement.

For example, one item we believe the standards should take into account is the fact that when a full performance level controller leaves, it is not simply a matter of bringing on or hiring a new controller and replacing an FPL; it's not a one-for-one replacement. It takes time for those developmentals to come up to speed. At the present time, the standard does not take that time line adequately into account.

Mrs. **Johnson**. Yes. Because of the experience issue in training. In other words, the staffing standard ought to be something that prepares the FAA over, say, a 10-year period to be looking at its supply and demand of controllers. When you look at the eligibility for retirement at the major centers, where in some cases it's over 50 percent, one has to be very concerned about developing staffing standards that aren't able to take into account the next five years of action.

Mr. **Mead**. Absolutely.

Mrs. **Johnson**. Do you make any proposals as to how they can do that?

Mr. **Mead**. Well, we haven't formulated any special formulas or things like that. What we have done is we have identified as a finding of our work that the current standard doesn't adequately take that into account.

Mrs. **Johnson**. But you are not going to make any proposals about how you could do that?

Mr. **Mead**. We may, but we will not get ourselves in the business of actually writing a formula for FAA. But we will give in our report some general options for FAA to consider in constructing the formula.

Ms. **Cheston**. For example, Mrs. Johnson, FAA does have data on the number of controllers who are retirement-eligible during the out years. One way of adjusting for that might be to add to the pipeline either that number of developmental controllers and trainees or a percentage of that number in order to gear up in the event that those people actually retire in 1991, 1992, and so forth.

Ms. **Johnson**. And to do that, to factor that in four or five years in advance so you have time not only for the training course but for the experience.

Ms. **Cheston**. Correct.

Mrs. **Johnson**. Thank you very much.

Thank you, Mr. Chairman.

Mr. **Oberstar**. Thank you.

One question, and then I am going to ask the GAO panel to remain until after we have completed our questioning of the FAA members, and we would like you to come back. We have some other items to cover, and we have some time constraints that we need to deal with.

But I just wanted to ask this. I understand from your testimony that terminal facilities are not staffed for peak periods?

Mr. **Mead**. That is correct.

Mr. **Oberstar**. Overtime is used for peak periods. Is that—let's say that there was a staffing standard that applied in the prestrike period—is that the significance of the 37th busiest day that the facilities were staffed for peak periods rather than for some lower period of time of activity?

Mr. **Mead**. That is its significance, yes, that at the terminal facilities, the staffing standard assumes staffing for peak periods of time, which was, before, the 37th busiest day. The standard currently goes to the staffs for the average day.

Mr. **Oberstar**. Yet we have 20-plus percent more traffic today than we had in 1981, more stress, more demand upon the system, and the work load standards being used are much lower today than six years ago.

Has FAA initiated or undertaken any study internally to look at this use of overtime, whether it's being allocated properly, whether there are wide discrepancies within the system?

Mr. **Mead**. There is a proposal with a contractor to redo the terminal staffing standard. On that particular point, one of the proposals is that they draw upon the center, the existing center standard.

We would suggest or recommend that FAA carefully consider how much of the center staffing standard it wants to use before that center staffing standard is revalidated. You may have the effect of carrying over some of the shortfalls in the center standard to the terminal standard if you simply adopt the center standard.

Mr. **Oberstar**. That's right. Is that study being done in-house, or is it to be contracted out?

Mr. **McCauley**. The reassessment is to be contracted out, Mr. Chairman.

Mr. **Oberstar**. Why isn't it going to be done in house?

Mr. **McCauley**. The firm that FAA is looking at or the individuals that FAA is looking at to redo the reassessment of the terminal standard were involved, some of them, in the prior development of the center standard. FAA has the opinion that they are satisfied with the center standard, and they would like these people, the same people, to do something like that for the terminal environment.

Mr. **Oberstar**. Doesn't the agency have the resources to do this analysis in house?

Mr. **McCauley**. I can tell you the management systems people within FAA headquarters who would do this kind of thing, their staffing is very, very limited. And, no, they do not have the staff to do it.

Mr. **Oberstar**. That's curious. We will pursue that further.

Mr. **Molinari**. I have one further question, Mr. Chairman, but I will withhold until the panel returns. Thank you.

Mr. **Oberstar**. We are going to be coming back, and I would like to get on to Administrator McArtor, so we will dismiss the GAO panel at this time and ask you to hold on.

I would ask Mr. McArtor and his associates to come forward. The Honorable T. Allan McArtor, Administrator of FAA; Mr. Brooks Goldmam, Associate Administrator for Administration; and Mr. Norbert Owens, Deputy Associate Administrator for Air Traffic.

Gentlemen, welcome to our hearing.

Please rise and raise your right hand. Do you solemnly swear that the testimony you will give before the subcommittee will be the truth, the whole truth, and nothing but the truth, so help you, God?

Mr. **McArtor**. I do.

Mr. **Goldman**. I do.

Mr. **Owens**. I do.

Mr. **Oberstar**. Thank you.

Mr. McArtor, welcome to the Subcommittee on Investigations and Oversight. We are glad to see you here and to engage in the first formal exchange between yourself and the members of this subcommittee. We have had your associates in the agency here many, many times before this subcommittee. Your predecessor, Admiral Engen, was a frequent participant in our inquiry into the air traffic control system, very forthright, very forthcoming in his responses to our inquiries and questions.

We look forward to the same kind of relationship. You take over at a very difficult time, a time of hiatus, a time when the Department has a change at the top, when there are increasing stresses on the system, and there is a need for movement.

I must say I like what I hear in your initial pronouncements. But as we have come to learn over the years, we have to measure by results and not by pronouncements, and we are very interested in seeing a change in management philosophy, some of which has already been expressed, a very important element of which is expressed in the written statement you submitted to the committee, that the era of we can do more with less is past and we have to boost the resources.

If that is going to be the guiding philosophy of your leadership at FAA, the agency is in for some very significant improvements.

I have your statement. I have read it in detail. You may summarize that statement. It will appear in full in the record, and we welcome you to proceed.

Mr. McArtor. Thank you, Mr. Chairman. It is a pleasure for me to be with you and your committee today.

I would like to make a few comments, first, to simply state once again that I welcome this opportunity to discuss the status of our air traffic control system and, in particular, the staffing standards related to our controller work force.

Before I begin, I would like to remind all of us, both the Congress and the FAA, that we must take a more comprehensive and critical look at the people, the equipment, and the procedures in our Nation's air traffic control system. It is that larger view, the managerial context in which we develop staffing standards, which I would like to briefly speak to this morning.

With me, as you mentioned, are Brooks Goldman, FAA's Associate Administrator for Administration, and Mr. Norbert Owens, my Deputy Associate Administrator for Air Traffic, who are with me to assist with specific questions and information regarding our air traffic control standards.

I have been on the job almost four months now, and immediately after taking the oath of office, I confirmed that FAA is an intensely operational agency that does a remarkable job under enormous pressures. My objective during the initial months was to reassess how well FAA was meeting its challenge.

Were we, for example, modern in our thinking about air traffic control? Did we have enough controllers to get ahead of the rapid growth in air commerce? Were we using the latest training technologies and methods to bring our controller work force up to full performance levels? And how can we better recruit, train, and retain air traffic controllers? And did in fact our staffing standards reflect today's work environment and anticipate tomorrow's traffic needs?

Mr. Chairman, these are the kinds of questions all of us must ask. Make no mistake, FAA wants to be held completely accountable to Congress, to industry, and to the American public. That is part of my program to recapture public confidence in aviation.

But I want us also to jointly agree on the types of measures FAA should be accountable for. While it is true that we can't manage what we can't measure, we certainly shouldn't base our judgment on measures which may have little bearing on safety in operating the Nation's airspace. America's air traffic control system is the best in the world, and the system as designed is safe. This past summer, despite doomsday calls and much publicized fear that our skies were unsafe, FAA's air traffic personnel handled a record volume of traffic with reduced delays on a nationwide basis from the prior summer. Delays were down 24 percent in September from last year and 45 percent in October.

As I have mentioned to you in private and to other members of this panel, statistics don't tell the entire story. I believe we need new measures to gauge how well we manage air traffic and how safe the system truly is. Near-midair collision reports, operational errors, pilot deviation, full performance levels, and controller work force numbers are all useful indices, but are not in and of themselves adequate measures of safety or management effectiveness. For safety, in my view, as I have so often said, is better evaluated as overall exposure to risk rather than absence of accidents, and it is exposure to risk that guides my management decisions every day.

My program for accelerated change for fiscal year 1988 is designed to build stronger margins of safety in our air traffic control system. While the system is safe, I am concerned about the margins of safety, and we can only preserve them by simultaneously improving the equipment, the people, and the procedures in our Nation's airspace.

FPL's, full performance level, while an important indicator of controller proficiency, may not predict how well the work force manages traffic this afternoon at O'Hare Airport or Boston Center. Our staffing standards may anticipate traffic workloads but fail to build in sufficient time for the full demands that we now place on our controllers. We agree with GAO that our standards should account for special projects such as operational error reviews, employee participation groups, and training or currency training.

Today's controller job is fundamentally different from the 1981 pre-strike job. We must stop comparing ourselves to that vastly different operational and technological time. Likewise, we should end the heroic attitude of the post-strike 1981 time frame that we can do more with less, admit that airspace management means more than simply separating aircraft, and plan for non-traffic-related controller work force jobs.

I have the commitment of Deputy Secretary Jim Burnley to seek these additional resources to help bolster our controller work force to meet today's air traffic management challenges.

Mr. Chairman, you have my pledge not to hide behind numbers but, rather, bring forward the issues and problems of operating the

Nation's air traffic control system in a period of unprecedented growth and demand. As I stated earlier, debates on numbers of controllers and FPL's have occupied too much attention and masked the magnitude of the real problems we face.

I need the flexibility to deploy controller resources at critical facilities when problems arise and dynamically respond to changes in air traffic flow nationwide. We must streamline the recruitment, hiring, training, and retaining of air traffic controllers. It takes much too long to identify good controller candidates and then hire and train them. Advanced simulation techniques are available which can greatly reduce the time to bring controllers to full performance levels, lessening the job of the OJT, or on-the-job training, in our facilities.

As part of my Impact 88 program, I am conducting a state-of-the-field review of FAA's approach to controller training and plan major revisions in this process this fiscal year.

I am also concerned about FAA's ability to retain good controllers. Human factors are as critical in the tower cab as they are in the cockpit. Accordingly, I have initiated an Administrator's focus group program to meet directly with employees. We just finished our first one with controllers and, based on their suggestions, have already altered some of our air traffic control procedures to better manage the airspace.

In looking at our staffing standards, we must account for these additional factors affecting our traffic management. There is a vital element of skill progression within our air traffic control system, and lower level facilities provide experience and career growth to many controllers. Staffing standards must factor in this kind of special involvement, and we are doing so.

We are also developing staffing standards for supervisory and traffic management coordinators. We are in the process of redefining the controller work force as recommended by the recent GAO report which was initiated at your request. The new definition will more clearly define personnel who have direct responsibilities and are available for air traffic control. Supervisors and traffic management coordinators will be included in the new definition, and the development of staffing standards for these groups will result in comprehensive coverage of the work force.

Finally, Mr. Chairman, we cannot ignore equipment needs in our ATC system. With growth in controller numbers comes a pressing need for more controller scopes and consoles. Through our Impact 88 program we are committed to accelerating our procurement of new technologies as well as refurbishing older ones.

When I say new technologies, I am referring to wholly new ways of controlling air traffic. Technology exists today to provide through satellite and ground-based data links simultaneous information to pilots for air traffic control. These new technologies will revolutionize FAA's approach to air traffic control and the related staffing standards to manage the system. Through our Impact 88 program the FAA has renewed and broadened its commitment to new ATC technologies.

Mr. Chairman, we are taking a serious look at how we manage our air traffic control resources. Today's intense scrutiny on civil aviation offers unique opportunities to work together to build a stronger air traffic control system so that we can safely handle sustained growth in the future. In building better staffing standards, we also have an opportunity to finally close the book on the 1981 controllers strike and look forward with great promise to the modern ATC system of the 1990's.

I and my colleagues now welcome any questions that you and the rest of the subcommittee may have.

Mr. OBERSTAR. Thank you, Mr. McArtor. I appreciate your addressing the management philosophy that you bring to the agency in this statement because it does give us a sense of your priorities and how you intend to manage this agency and utilize its resources and the guidance that is given to you to direct the FAA. I think that that is a very important benchmark for us to understand, and I think it is a commendable start.

I think for the first time, we have an administrator, at least in my 13 years of association with aviation issues on this full committee and subcommittee, an administrator who has attempted to give a definition of safety. There hasn't really been an underlying definition that reflects a philosophy of safety. Yours is expressed in that statement early in your remarks, overall exposure to risk. I have defined safety as the relative absence of risk. There may be a little difference in approach, but I see that you are trying to put a stamp, a mark, a guidepost for the agency to measure what it does and see whether you're making progress toward a goal. I think that has been missing in the past.

But I must say that I am taken aback by your statement that we have to not give too much weight to measures which have little bearing on safely operating the Nation's airspace, and you include in that definition near-midair collisions, full performance level controllers, numbers in the work force, management effectiveness. And I guess the only one you left out was stress.

If those are not indices of whether we have the resources to accomplish the purpose of safety, then I just wonder what do we use to measure? You are not ruling those out, are you?

Mr. McARTOR. No, no, not at all. Perhaps I need to make myself more clear. Those are very valuable indices and taken together, if you understand their significance, do provide valuable indices and indications of overall safety or exposure to risk.

Mr. OBERSTAR. Taken by themselves?

Mr. McARTOR. Taken by themselves, yes. Taken by themselves, they offer little information. Operational errors, for instance, taken alone, give me little comfort if the statistic is going down and very little alarm if it goes up, taken by itself. Nor does the number of FPL's in the system taken by itself give me an indication of whether we are adequately staffed from an air traffic controller point of view. But they are valuable indices, you are absolutely correct.

Mr. OBERSTAR. This committee has always tried to measure the entire system as a whole, and we have tried to take all of the factors into consideration in determining whether progress is being made toward rebuilding—that overused word—rebuilding the system. We feel very strongly about that matter, and certainly near-midair collisions are a very important indicator of progress. We see those numbers this year already in the end of September exceeding the numbers for all of last year. Those are matters that provide real concern. And I think the FAA is responding with its survey now throughout the country on terminal control areas, limiting within certain distances numbers and types of aircraft that can enter that airspace. I think that is a recognition on the part of the FAA that those numbers are of concern.

Mr. McArtor. Yes, the numbers are of concern. And, of course, we invite those reports. Rather than argue the statistic itself, we are very concerned with the events themselves. As you mentioned, that is why we have accelerated our TCAS technologies and Mode C altitude encoding transponder rules, proposed more terminal control areas, and are investigating the increased use of ARSA's, or airport surveillance radar areas. There are several initiatives in place because we are concerned about the events. Of course, the statistic helps us calibrate the frequency of events.

Mr. Oberstar. Now, the particular focus for today's hearing is staffing standards. One of the problems that we had in the past with the agency is we're talking about an issue with one understanding of it and one definition, and the agency is using another definition. We have often had the feeling that when it comes to staffing standards, the agency takes aim, fires, and then draws the target around the point of impact.

Standards should be the basis for effective allocation of employee resources, and they should realistically reflect field operations. There should be input from the bottom up, not the top-down management style that has characterized FAA over a period of many years, going long before your tenure there.

Are you prepared to say the staffing standards accurately portray field operations as they exist today?

Mr. McArtor. I think they do a much better job of it. I would certainly agree with you, the GAO and anybody else who is familiar with any kind of staffing phenomena that any staff level that can be modeled, and you can model those staff levels that have jobs with predictability and discipline and precision, which our air traffic control system does have. It is a perfect opportunity to try to develop staffing standards and staff levels.

Are we as sophisticated in that level, that staffing standard, as we would like to be? No. Are we more sophisticated than we were a year ago or 2 years ago? Very much so. As a matter of fact, it is a rather complicated and sophisticated staffing standard that is used right now, and not well understood by those not intimately involved with it, which is one of the objections that we have heard. We recognize that because it is a sophisticated model it has not been communicated or understood as well, even within our own agency, to use as a management tool. It would have been a valuable management tool had it been or were it to be better understood and better communicated.

But it is a sophisticated model, and we think it's a good one for the resources against which we have applied to it now and the staffing that we have to work it.

However, we think it can stand improvement. For instance, in our terminal model, staffing standard model, we are putting it as we are with the center model up to the 90th percentile level. We think that would be a more accurate reflection of the staffing at the terminal level. So that is an additional sophistication that we are doing there.

So we are continually trying to improve it and validate it. I would take exception with the previous testimony that we don't validate the model. We certainly try to, and we think we do a relatively good job of it. Perhaps we need maybe to define what does validation really mean, because we may be talking—we may be in furious agreement here. We think we can do a better job and a more frequent job, given the resources to do so, but we do in fact validate the model and we do it, among other things, by simply comparing it against the real-world staffing.

But we do involve a bottom-up input to the staffing standard to develop the staffing standard itself. Then that staffing standard is created as a national standard, but it is done with local input, local statistical input. Then there is some flexibility, of course, given to the regions to manage the staffing within the regions.

We sometimes find a bit of a confusion in talking about staffing standards and staffing levels, whether we are staffed adequately or whether the standard has been developed to reflect adequately the work force.

Mr. **OBERSTAR**. Well, that is precisely the point of the GAO inquiry and of their report to the committee. We asked for an analysis of the yardstick by which you measure the number of people required at a particular facility, not a prescription for a specific number. We didn't ask for the cake, we asked for the recipe to bake that cake, and what we are trying to do——

Mr. **MCARTOR**. But I think we field interview for that.

Mr. **OBERSTAR** [continuing]. Is to understand whether you and FAA at the headquarters level have the same understanding of standards as those at the operational level have.

Apparently, according to the GAO inquiry and report back, after talking with extensive numbers of managers in the field and operational people, there is not the same understanding at the working level as there is at the headquarters level.

Mr. **MCARTOR**. The answer to that is yes. I agree with that statement. However, I think as part of the field investigation, asking a local manager how do you feel about your staffing standards, if he is understaffed or feels he is understaffed at that time and makes the assumption that the reason he is understaffed is because of the staffing standard, he will say he disagrees with the staffing standard, where I feel that is not really an accurate reflection.

Now, that could in fact reflect back on us for maybe not communicating the standard better to that particular manager. But I am not sure that that was a very effective way to understand whether the standard itself was adequate.

Mr. **OBERSTAR**. Well, we need very clearly to develop a commonly understood and accepted standard by which facilities are staffed. For example, the subcommittee has heard for the past 5½ years from two other administrators that prior to 1981 the system was overstaffed, we were fat, we had too many people.

One of your predecessors said, "Our problems walked out the door on August 3, 1981." Well, you know, that just showed such a misunderstanding of the problem.

Mr. **McArtor**. Well, I could certainly correct that statement for him.

Mr. **Oberstar**. Yes. And your pronouncements are certainly refreshing in that respect.

But terminal facilities were staffed for peak periods. Now that standard in 1985 was changed; you are staffed to accommodate some lower level of activity. Why? Is that adequate? Does that standard apply uniformly to all facilities? Is that standard adequate for centers? Does it reflect the reality at terminals?

Mr. **McArtor**. Well, you are correct in that the staffing standard as far as staffing against an average day or a peak day, the 90th percentile day, at the terminal, that was different than the center. We developed a much more sophisticated staffing standard model and probably a more adequate one for the centers first.

We have gone back now and taken a look as well at the terminal staffing standard and found some deficiencies we believe that we are better off using the 90 percent percentile with that because after all, only in the last few years since the testimony of which you speak, there has been a mission change, a cultural change, if you will, at the FAA, in not only separating aircraft from other aircraft but actually managing the airspace system, the capacity of the airspace system, which reflects not only on the center but on the terminal environment as well.

So, in adjusting to and accepting this new challenge and responsibility within the FAA, we would agree with you that we have to look at this on an annual basis or more frequently to make sure that we accurately reflect today's challenge and the growth that we expect for tomorrow.

Mr. **Oberstar**. In that context, what is your view, if you were to go out to O'Hare or to Atlanta or to Minneapolis-St. Paul, to judge whether those facilities are adequately staffed—and I just picked those at random, not out of design; pick Cleveland or any other facility—and you look at the number of people they have at various times of the day, how are you, Administrator McArtor, going to decide that this facility is adequately staffed or inadequately staffed? What are the factors that go through your mental computer to distinguish one facility from another and to decide whether they have enough, too many, or not enough?

Mr. **McArtor**. Well, as a matter of fact, I do that, and I talk with those facility managers and I ask them about their staffing because the only staffing that that manager is concerned with, quite frankly, are how many people can report for duty today, this afternoon or this week, how can I work in my shift duty schedule for manning all of the stations that I need with an adequate reserve for sick leave or vacations, an adequate amount of overtime, training, currency training, staffing of investigative actions? And in some cases, even the recognized mission of people using a facility as they move on throughout their careers. I will address that more in just a moment.

It has very little to do, quite frankly, with FPL's. You theoretically could have a facility perfectly staffed, perfectly manned with all the expertise you require, with no FPL's but you would have theoretically the most controllers or the maximum amount of controllers in that facility. If they were all FPL's, you would theoretically have the minimum number of controllers from a flexibility of scheduling point of view because you could move one from one station to another. That would give you maximum flexibility.

The FPL level gives me some indice of overall experience because having achieved an FPL status, there is a certain amount of longevity and experience now that is reflected in that.

But when I ask the manager, are you staffed adequately, I am looking for the answer that says a person has enough air traffic control resources to apply against each required position on a shift basis with reasonable overtime and, like I said, for these other areas. That is the kind of staffing standard that has to be reflected.

In some facilities, though, I am not sure that we adequately reflect a mission that is a very real mission. In fact, I will give you an example. For instance, Kitty Kuhlman is our manager in Long Beach tower, and I asked her whether she was adequately staffed. She said, "Yes, to control the traffic at Long Beach tower. But I provide another real mission to the FAA: People come through my tower en route to other facilities as they upgrade, and I am not staffed in order to meet that mission. I know it's coming, but yet I have to wait for that person to leave before I can backfill into those positions."

I think we have to continue to examine how we actually run the FAA and what are the phenomena in our system that do occur on a day-to-day basis and make sure that those things are reflected in our staffing standards as well. I was advised here recently that those are beginning to be built into these staffing standards as well.

Mr. OBERSTAR. Those are the very factors that we are concerned about, that we want to see. And GAO believes that you ought to have some sustainable yardstick for measuring the needs at various facilities, not an arbitrarily set number, but those various benchmarks that you just enunciated.

Mr. MCARTOR. Mr. Chairman, may I make one statement here with regard to numbers that I think is really very important. We simply cannot talk about numbers of controllers without at the same time talk about training. The reason is that we rely in our system on on-the-job training, OJT training, which is a very effective means to train, but it is a relatively inefficient means to train. It draws a lot of resources away from the system in order to provide it. It's inexact. It's not very predictable. And it takes a long time to complete. You have to wait for the occurrence of traffic to occur before you get meaningful training.

That is why I have pressed very, very hard to develop simulators, the same way we use simulators so effectively with our pilots, to train air traffic controllers as well and not rely so much on on-the-job training at the actual facility. We are working very, very hard to do that.

We have, for example, in certain areas adequate numbers of controllers, you might even say we are overstaffed in some areas, but they are bunched up against training, waiting to be trained in order to get into the system. So the numbers don't show the whole picture. It's the training program that is also integrated directly with those numbers of controllers that is most important to us.

I am, quite frankly, pleased at the additional sophistication of measuring numbers where an FPL controller, who has the rank, the stripes, the pay grade and the experience level, moves from one facility to another and is not yet able to pull duty as an FPL at that new facility. He is really not of much worth to that manger who has to schedule the shift duty that afternoon. So I am pleased to see that.

Mr. OBERSTAR. Thank you for your responses. I have other questions, and I want to stick myself to a close time frame.

The gentleman from Pennsylvania.

Mr. CLINGER. Thank you very much, Mr. Chairman.

Thank you, Mr. McArtor, for your presence here today, and we certainly join with the chairman in welcoming you for your initial appearance before the subcommittee. We hope there will be many more.

I just want to clarify one thing. We heard testimony from GAO earlier that a significant change in establishing the staffing standard was to go from using the 37th most busy day to the average day. Did I understand you to say that you agree with that criticism, that there is now a recognition that you would base the standards for both terminal and center on the 90th percentile? Is that what you testified?

Mr. MCARTOR. We have started that. I mean, not as a result of this report, necessarily, but we have identified some of the very same things that GAO identified in parallel with us. But we have already begun that activity.

Mr. CLINGER. That is a part of the process now?

Mr. MCARTOR. Yes.

Mr. CLINGER. GAO also indicated that they felt there was a change after 1981 from what had gone on beforehand, in that the standards before the strike, before 1981, were basically more driven from the bottom up; that the input from the field was much more significant than after 1981, and that the standards tended to be established more by headquarters and filtered down. How would you respond to that criticism in today's context?

Mr. MCARTOR. Well, I would have to challenge that. I would take exception to it. We feel that we adequately involve the bottom-up input into the development of the standard. Then, of course, the standard becomes national standards and regions are left to implement them.

As to whether there is an adequate amount of bottom-up input, that is very subjective. I certainly hope that the GAO is not expecting us or even implying that we might return to a 1981 era type of staffing standard. I would find that somewhat distressful.

But as far as simply saying that during that era we had more bottom-up participation, I would hope that we have as much or more bottom-up input into the development of the standard itself. But the standard is a far more sophisticated model than was used in the 1981 era.

Mr. CLINGER. And yet there seems to be, at least again from GAO's testimony, there seems to be a problem with communicating that standard to the field so that they really understand what they are being asked to implement. The standards are there, but apparently in many cases the field offices were applying a different standard and there seemed to be a lot of confusion on communicating that standard. How can we improve that?

Mr. McArtor. Well, I will recognize a need to improve. We could debate the precise understanding of the GAO with respect to details surrounding their report. But I don't think that is necessary. But the intent of eliminating some of the areas that require improvement, I think there are several areas that I would agree with them could be improved and our communication of staffing standards is one of them.

As I indicated, it is in fact a sophisticated model, and you have to understand modelings and how to apply it. One example would be the eight-shift model. It does little good to a local manager, for instance, who feels that he is understaffed to be looking at eight shifts when oftentimes the reason you go to three shifts is because you are low on FPL's or you're low on staff and you have to go to three shifts in order to give yourself some flexibility to manage that challenge. So the two work hand-in-hand.

But I would recognize that there are several parts of the GAO study that I am glad that they have identified either before, with, or after us. We have already implemented many of those recommendations.

Mr. Clinger. The fact that the staffing standards indicate that a level significantly below what is presently on board, and I gather what would be contemplated for next year, would indicate that perhaps we need to do a better job establishing what the standard is. Would you agree with that testimony?

Mr. McArtor. I heard that testimony, and I must say that I cannot speak from detailed expertise on that.

Brooks, can you help me on that?

Mr. Goldman. Yes. I think from the standpoint of the terminal staffing standard, we would agree that the standard reflects a lower number than actually are assigned to the facilities. The air traffic control center standard, we feel, is more closely tied to the actual needs. And we are taking action now to upgrade the terminal standard.

Mr. Clinger. There is just one other area that I wanted to touch on. You had indicted that, as part of the overall objective in fashioning sophisticated standards, you recognize that a quantity of your resources are going to be devoted to new equipment, to more state-of-the-art equipment and as you go forward.

How do you factor that into a standard? Because clearly that has a real impact.

Mr. McArtor. It certainly does, particularly with the long lead time now with respect to training, hiring and training of controllers. You have got to have a pretty good crystal ball. That crystal ball has to take into account the growth in air commerce itself. It has to be able to anticipate, for instance, the emergence of a new hub airport, where suddenly a tower facility would hopscotch through two different grades almost overnight. That is difficult to do, but it has to be built into it as well.

We have to anticipate the potential retirement out of our ranks. That is also difficult to crystal ball. What we think we need to do is add a higher fudge factor for that.

We also have to anticipate, for instance, the new terminal control areas, new radar control areas, new towers within the system in order to try to get to total staffing levels and perhaps even better and more efficient ways to train.

If your intent is to remind me how difficult that is, I will agree with you. If you are saying are we comfortable with our ability to crystal ball?

Mr. **Clinger**. That is what I am asking, really.

Mr. **McArtor**. No, I don't think we are as good as we can be or ought to be. Our strategic planning resources at the FAA are not as substantial as I think they should be for the challenge and the significance of being able to predict those things. We are working hard on it, though.

Mr. **Clinger**. Is this why you are contracting out, for example, the work in terms of refining the standards?

Mr. **McArtor**. Yes. That's correct. We are limited in our resources organically within the FAA to actually produce this kind of information. A lot of our support staff in the FAA is wanting with respect to staffing or staff support in various areas. We have been focused a lot on controllers and technicians now over the last couple of years.

I hope that we would be up to that challenge. We certainly understand the importance and the significance of it. It is a very dynamic environment in which we work. So it is difficult for us to listen to testimony or listen to people say, "For once and for all, we would like to have an answer or finally get there." We won't for once and for all, but we can keep pulling away at trying to get better at it. And whether it's an annual validation or a six-months' validation, we've got to do whatever is necessary.

Mr. **Clinger**. I think that is what is becoming increasingly clear, because there are so many variables and because things are changing so dramatically, we are in a very dynamic situation; it certainly is not a static one. And that almost seems to mandate that the review of the standards, the upgrading of the standards, be done on a very regular basis.

Mr. **McArtor**. Sure. And as to how we measure ourselves, how many controllers we add to the controller work force in our statistics, we will do whatever is necessary with respect to this committee and other Members of Congress to gain a better understanding of how well we are staffed to meet our mission. My only regret is that we often use those numbers to compare ourselves to pre-strike levels, which are not very meaningful to me. I am more concerned about this afternoon and whether we are ready for next year with respect to those staffing issues.

Mr. **Clinger**. I agree with you that is where the focus has to be. Thank you, Mr. Chairman.

Mr. **Oberstar**. I thank the gentleman.

The gentleman from Georgia, Mr. Rowland.

Mr. **Rowland**. Thank you, Mr. Chairman.

Mr. McArtor, greetings to you. It is a real pleasure to have the opportunity to talk with you a few minutes. I have read your background, and you are eminently qualified, in my opinion, to occupy the position that you now have.

I am especially pleased with the statement that you have made here that the chairman has already referred to, that safety is better evaluated as overall exposure to risk rather than the absence of accidents, because we have heard repeatedly in testimony before hearings that the number of accidents are down and therefore the system is very, very safe.

We talked also this morning about the various entities that have to do with safety in our airspace system, and you spoke about the fact that all of these together are responsible for the safety in the system or the fact that the system is not safe. In that respect, let me ask you this— and I am going to ask GAO this question also— what effect do you think that the staffing standards have to do with increase in the number of near-midair collisions that we have seen during the past several months, if any?

Mr. McArtor. I would like to say that it has no impact. It perhaps does. Right off the top of my head, Congressman, I see no immediate impact at all, because the near-midair collision phenomena happens most often between aircraft flying under visual flight rules and one aircraft flying instrument flight rules around the periphery of a major metropolitan airport environment, where additional staff or additional controllers and in some cases even additional equipment would have very little impact on that.

Operational errors are another indice. We would see where there might be some correlation between staffing levels and operational errors. We saw, for instance, earlier in the summer a rise in what we call hand-off operational errors, and came out with a policy, a very focused and targeted policy for a requirement for overlap briefings between controllers where they plug in together and work together side by side for some period of time. That virtually eliminated the hand-off operational errors.

So, some of these indices reflect simply a need for better techniques and management oversight, and others do reflect staffing standards.

But in answer to your specific question, I don't see the relationship between the NMAC—the near-midair collision—reports and staffing standards.

Mr. Mineta. Mr. Chairman, may I expand on that?

Mr. Oberstar. Please.

Mr. Mineta. In doing that overlap, does that require additional overtime for the person who is coming off shift, staying on until, since it was overlap between the person going off shift and the person who is there, does that require additional time?

Mr. McArtor. These were 5-, 10-minute overlaps in some cases. Now, in some busy sectors we actually found that it's good to work overlapped, say, 20 minutes to actually provide an adequate hand-off.

Mr. Mineta. Is there any quantitative dollar amount you might be able to cite?

Mr. Owens. No, because it is so variable, depending on the way the facility handles it. It generally occurred at the start of the shift or at the end of the shift. During the course of the shift, the 8-hour shift, depending on the facility, I think it was a minimal amount.

Mr. Mineta. Thank you very much.

Mr. ROWLAND. So, then near-midair collisions are not related so much then to air traffic controller staffing standards as is to other factors?

Mr. MCARTOR. That's right, sir.

Mr. ROWLAND. That is what I understood you to say.

Mr. MCARTOR. That's right.

Mr. ROWLAND. You suggest that the controller job is vastly different now than it was prior to 1981. I am asking this for information because I have been told that much of the equipment that is being used now is the same equipment that was being used prior to 1981 and that we have not been able to bring on line the improvement in technology that is available to us.

If that is true, why wouldn't it be proper to compare standards then with standards now?

Mr. MCARTOR. The equipment itself is identical or certainly similar in most respects. We are behind as a country in recapitalizing our equipment within the system. We have a very successful program on our computer side now where our new host computers provide far greater response time and capacity than our older 9020 computers. So, we are introducing new equipment.

But the controller's job is changed in that the airspace management has changed, including new noise profiles. Noise regulations around the metropolitan areas have changed. We have, for instance, expanded the East Coast Plan where we now run three corridors, traffic lanes, where there was one. Oftentimes we have created now a four-post terminal environment where we actually bring aircraft in from four points of the compass where maybe there was one or two prior to 1981.

So, the job itself has changed as far as the management of the airspace system. We use the air traffic control assistant very effectively now, and we didn't have that position before.

Our traffic management office is a new office and is very effective. Flow control and how flow control interfaces with our system is a new system.

So, the nature of the job has changed. There are some new technologies involved. But it's primarily the nature of the job and the traffic management function.

Do you want to expand on any of that?

Mr. OWENS. No, I think you covered it pretty well. The only other thing I might add is that the mix of traffic has changed, with the introduction of commuters and air taxis into the mainstream of the system. They have caused substantial changes in the way air traffic controllers react to situations.

Mr. ROWLAND. You are referring to the hub-and-spoke?

Mr. OWENS. Primarily, that is right. The hubs have attracted a great number of commuter nonjet type aircraft that create some unique kinds of complexity problems in the air traffic control system.

Mr. ROWLAND. Thank you, Mr. Chairman.

Thank you.

Mr. OBERSTAR. Thank you, Dr. Owens.

Before going on to Mr. Molinari, I have just one question. Is there an attitude within—more than an attitude—an underlying philosophy of staffing the facilities for the minimum hours—that is, at the median or lowest level—to accommodate your existing numbers of controllers? And I say that, given the background that we have discussed earlier this morning about the amount of overtime. There seems to have prevailed, perhaps from necessity prior to your administration, a willingness to use overtime as a substitute for increasing personnel, that rather than vigorously work toward increasing the overall staffing, a willingness to substitute overtime for additional personnel.

Mr. McArtor. No. I want us to use overtime responsibly. I don't intend to eliminate overtime in the system. I am a firm believer that there is good overtime and bad overtime. Overtime is a very effective management tool to take care of surges in the system or unexpected activity. So, I never intend to zero-out overtime.

We also use overtime for administrative detail, training, currency training, special projects.

Mr. Oberstar. But for standard operational purpose?

Mr. McArtor. Standard operations, if for instance, you kept somebody on the scope for a longer period of time than you felt comfortable with and you had to do that because of staffing limitations, that is how I categorize bad overtime. That would be an overtime that you would want to eliminate from the system.

But there is no philosophical belief within this Administration that overtime should be used as a substitute for staffing.

I think we probably should recognize that the air traffic control system years ago experienced a lot of peaks and valleys with respect to activity. There were surges in the system, even around busy airports, peak hours followed by very little, almost no activity followed by peak hours.

That is changing now, even in the terminal area, particularly in the hubbing airports, where it's almost all peak hours. So, we changed the way we want to staff. Where prior, you would feel comfortable if you got an unexpected surge in traffic, you could handle that with overtime, it wasn't any big problem. Now we see a bigger challenge to handle air traffic in a terminal environment, it's now better to staff for a higher level because you are experiencing more continual peaks.

Mr. Oberstar. That's right. Flow control is contributing to this. As flow control reduces the peaks but fills up the valleys so that you have more traffic distributed over the entire workday, you still have peaks, they are lower than they were.

Mr. McArtor. It's the growth in air commerce that causes that. Of course, flow control is a meter into the system.

Mr. Oberstar. But that is having its effect on staffing as well, is it not?

Mr. McArtor. That is correct.

Mr. Oberstar. Thank you.

The gentleman from New York, Mr. Molinari.

Mr. Molinari. Thank you, Mr. Chairman.

Allan, you were pleased, obviously, with the reduction in delays and made a point of it during September and October. And you made reference to the fact that there was a 24-percent decline in September and a 45-percent decline in October. Can you share with us the relative comparisons of near-midair collisions during that same period?

Mr. **McArtor**. I would be glad to. Let me see if I have that statistic.

[Pause.]

Mr. **McArtor**. Let me have the license to pick a slightly different period, but I think it will reflect what you are looking for. We have a number of reports which show that we have a 34-percent increase in total reports for that period of time, 1987 over 1986—excuse me, that is January-October, January through October. So that is year to date, 1987 over 1986, a 34 percent increase in those reports.

Air carrier-involved near-midair collisions, which I think is also a useful indice, year to date over 1986 is up some 47 percent.

Mr. **Molinari**. Yes. And of course, I have some figures here—I don't have October's figures—but figures you furnished to me, indicating that in the month of September we had 72 near collisions in 1986, and we had 97 this year. In August we had 78 last year, and we had 136; a very, very dramatic increase, almost double.

When you look at the tower facilities, where maybe the key to aircraft getting off on time, we find that at the terminal facilities in 1986 for the month of September, you had 29 operational errors whereas this year you had 44. We doubled, over double. It was six in 1986 and we're 13.

So by every measuring device, we are seeing statistically a reduction in delays but a very sharp increase in the number of operational errors at tower terminals and in the numbers of near-midair collisions.

Now, I notice in your statement that you seem to want to maybe walk away from those statistics on page 3. Maybe that is an unfair statement. I think it is unfair.

Mr. **McArtor**. Yes, it is unfair. [Laughter.]

Mr. **Molinari**. OK.

Mr. **McArtor**. The thing to recognize is that in our conversation together I think you will recognize that I will not and have not walked away from any of these statistics. And we can talk about them right now if you like.

Mr. **Molinari**. OK. Now, the obvious question that jumps out at me is we see a reduction in delays, which is a desirable thing for everybody, and I have noticed it myself as a traveler. But I also see a very sharp increase in those measures that we have been looking at over the years, and I am wondering is there some connection?

Mr. **McArtor**. No. I don't think there is a connection, Congressman, in our zeal to reduce delays, are we in fact creating a less safe environment, if that is the way you're headed with your question. I don't believe so at all. There are a lot of reasons for reduced delays. We will take credit for most of them, thank you. But in fact, we do have some more realistic scheduling in our airlines, and after all, we are beyond our peak summer period.

Nevertheless, the system is running better. Flow control runs more efficiently. We are adapting to that situation much better.

The operational error, while it is a very necessary indice to use not only to measure safety but it is as much a capacity indicator as anything else, as you are familiar, an operational error does not necessarily mean an unsafe condition. It's where we have penetrated a veil that we have created for ourselves for separation of aircraft. What we want to try to do is to try to run as close to capacity limit as we possibly can because that is a sense of efficiency. But we don't want to ever get into a safety limit or the safety red line that we have talked about.

So, an increase in operational errors, in most cases it indicates that we are trying to run at the presubscribed or predescribed capacity limits of a system. It doesn't necessarily mean that it's a safety problem. However, some operational errors are directly tied to what we consider to be a safety risk.

So, that indice is rising, which is reflective of how busy the terminal environment is. Most operational errors occur in the terminal environment—well, I can't say that. Many of them do occur in the en route environment, but that is a capacity limit.

The advance in near-midair collision reports, of course we are encouraging a lot more reports. Pilots are more mindful of them. They are watching for other aircraft. They submit a report any time they feel uncomfortable, and many of those reports, a substantial number of those reports, upon investigation—we investigate every one of them thoroughly—many of those reports turn out to be nonhazardous conditions. And yet we want them to report those incidences.

Mr. MOLINARI. Well, I am sure. But the fact is that the critical- and potential-hazard numbers are increasing with the total.

Mr. McARTOR. Absolutely.

Mr. MOLINARI. It can't be just better reporting.

Mr. McARTOR. No, no, no. My follow-on sentence to that is that while there is a statistical reason for just encouraging more reports and getting better participation in the program, you would expect more reports. We don't want to say that's the only thing that is happening here. We are having an increase in the number of hazardous near-midair occurrences in our system. Now, is that tied to growth in air commerce? Is it inevitable? Not necessarily. The actual number of actual midair collisions holds somewhat constant. In fact, we have almost had exactly the same number over the last 10 years every year.

Mr. MINETA. What is that?

Mr. McARTOR. The actual number of midair collisions has held somewhat constant throughout our system over the last 10 years.

Mr. MINETA. Well, but we could play a numbers game and I think———

Mr. McARTOR. No, I don't want to hide behind a numbers game. My point is not to get into the numbers game, but to share with you our very, very sincere concern that the near-midair collision indice is rising.

Now, our investigation into this is not so much to worry about whether the indice is rising itself but to take the population of errors as they occur and find out within that population what can we learn from this: did this happen in a terminal control environment; were the aircraft under air traffic control; and if so, was it the first of a shift, the last of a shift, was it during a hand-off between controllers; was it in the terminal environment; what was the weather; was one aircraft IFR, one VFR; was that on the fringe of a TCA; would a Mode C altitude encoding transponder have solved that problem?

We take a look at each incident within the population itself. Now, if that population changes in size—which it will do because it's a statistically improbable event to start with, so that population will change in size—we learn more from the events themselves than we do from the trend established by the statistic. That is all I wanted to point out.

Mr. MINETA. If I take that same response and I buy that and the people here on this panel buy it, we talk to GA pilots, we talk to the public, we talk to a number of people, they give us the two-word, eight-letter response. And I have tried this. I have heard you on a number of occasions, and I buy it. But when I try to explain it to someone, they say, "Well, really, what it really is," and go through that quote, just as you gave it, they say, "Hmmm."

Mr. MCARTOR. Then they didn't hear the part that said we are sincerely concerned with near-midair collision reports and are doing something about it. We have several initiatives aimed at reducing this risk in our air traffic system.

Mr. MINETA. There is a perception that the way we are doing that is by restricting demand. In a deregulated environment, it seems to me it's tougher for us to try to say we're going to control that, we're going to control safety by depressing demand through our, let's say, inability, by controlling our ability to handle the traffic. In a deregulated environment, I am not sure that that is what we want to be doing.

Mr. MCARTOR. Well, we don't want to do that long-term, but we have to recognize that if there is a capacity limit to the system—whether it's a limit on the number of runways that are active during a particular day, whether it's a limit on controller staffing or radar screens within an environment—we have to be mindful of that capacity limit and stay under that limit, whether it's flow control that does that or any other mechanism.

But, no, we must design the system long-term, hopefully, to accommodate unrestricted growth in air commerce. But we do not intend to restrict air traffic in order to achieve safety. We do intend to introduce some technologies to do so.

But the near-midair collision report, as a matter of fact, is so serious to us that in response to a dramatic rise in near-midair collision reports over the Los Angeles International Airport, I took immediate emergency action this summer to raise the ceiling in that terminal control area immediately because of response to near-midair collisions.

By the same token, we must require general aviation aircraft that fly around a busy metropolitan area to carry that additional piece of electronics, the Mode C altitude encoding transponder, not to restrict his access but to illuminate his position as well as his altitude on the scope so that we don't have the near-midair incident.

Mr. MINETA. I thank my colleague.

Mr. OBERSTAR. Would the gentleman yield momentarily?

Mr. MOLINARI. Surely, I would yield.

Mr. OBERSTAR. The Chair will extend the gentleman's time if he would be so generous.

I must follow up on Mr. Mineta's question because we have heard this now from your predecessor for several years and now you are falling into the same, I think, error of thinking that near-midair collision reports—and we will continue to call them near-midair collision reports, not some euphemism—are up because there is more reporting and better reporting.

They are up because there are more incidents, and if you plot these on a graph, as subcommittee staff has done, they are going up at a higher rate than the increase in the millions of airborne hours.

I think the simple recognition of that fact is vitally important to taking the proper action that must be taken to deal with the problem.

Mr. **McArtor**. Absolutely. I think you recall, Mr. Chairman, that I was not trying to say that the only reason for the increase in the NMAC's was increased reporting. But I was trying to catalogue the reasons that we are having a higher number of reports. One of them is better reporting, more frequent reporting.

But the main thing is—and I mentioned to your colleague—we are having more hazardous near-midair incidences. And that is of great concern to us. And one of the reasons that they are increasing greater than the number of flight hours that increased is that all aircraft come to rest at airports and airport capacity is limited. We need more airports. We need expanded airports.

Mr. **Oberstar**. You are right.

Mr. **McArtor**. We need more modern airports.

Mr. **Oberstar**. You are right.

Mr. **McArtor**. That is—ultimately we need that. Are we going to get that by this next summer? No. So we've got to take action to reduce the exposure to risk around major metropolitan areas. That is TCAS. That is Mode C transponders. That is a new definition of terminal control areas. It's better pilot training, more proficiency, better professionalism. All those are themes of the Impact 88 program because we must reduce this phenomena.

But I did want to make a point—and maybe I have belabored this point too much—that these events are statistically improbable with respect to the overall population of things, and anytime you have a statistically improbable event whether it's near-midair collision or an ops error or whatever, in relation to the total, the grand total, you have to be very cautious about drawing conclusions from rises and falling in that statistic because it's not an exact statistic with relation to the overall population.

That's why it's important to investigate each one, not just look for the statistic. If the statistic goes down two months in a row, I am not going to feel any more safe than I do right now.

Mr. **Oberstar**. Well, the subcommittee will revisit the issue early in the next year and look in a much more detailed way with the FAA and GAO on that issue.

The gentleman from New York is recognized for an additional 4 minutes, having relinquished nearly all his time.

Mr. **Molinari**. Thank you, Mr. Chairman.

The near-midair collision category that concerns me the most and should concern all of us the most are those that you classify as critical. I think your definition is, that is normally where the separation is less than 100 feet and neither pilot has taken evasive action. They didn't crash because they didn't crash.

In 1986, for the first nine months of that year, we had 129 that fell into that category, and for the full year there are no open classifications. All the investigations were completed. In 1987 we have an amazing total of 114 already classified as critical, with 249 open cases.

What we are talking about is almost doubling the number of critical near-midair collisions in one year. I ask you, doesn't that mean that we have a better chance of having a midair collision than we had the year before?

Mr. McARTOR. Statistically, you would be accurate, Congressman. But I think it's safe to also point out that, in balance with increased activity, if we are looking for frequency or whether the odds, to use that term, are the odds of having a near-midair collision greater than they were they were before, that could be argued because of the number of movements.

Now, the absolute number in the statistic is rising, but then so are movements within the system and movements around terminal control areas, as are the reportings.

But I would have to agree with you that, yes, I am disturbed by this rise in numbers.

Mr. MOLINARI. That is not what I am asking. I know you're disturbed about it. This is something that I have looked at for years, and so much so that I am now consulting with some——

Mr. McARTOR. Well, I didn't have to look at it for years. I looked at it for about a month, and that's why I took action to accelerate the—

Mr. MOLINARI. But I can't get an answer——

Mr. McARTOR [continuing]. TCAS equipment, the Mode C transponders and everything else.

Mr. MOLINARI. I can't get an answer to that question. I never could. To me, a layman—and I have talked to professors this week at MIT and others who are doing a study for and indeed we had an FAA man sitting in your seat last year who said if you doubled the number of critical near-midair collisions in two years, that would be a serious matter for concern. OK. Otherwise, throw them out the window.

I cannot accept, myself, the fact that with sharp increases such as we are talking about here, particularly those that are classified as critical, that we are not talking about a greater possibility of having a near-midair collision and loss of life that would result from it.

Mr. McARTOR. I don't think, in our air carrier environment, that is accurate. I think in the overall system itself. But with respect to the probability with air carriers, I don't think I would argue with you that it is more probable now than a year ago. Certainly, in our aviation system the increase would be more of a problem.

Mr. MOLINARI. Let's just then look at air carriers with air carriers. OK, we always talk about general aviation being the primary cause. If you look at just air carriers with air carriers, for July, August, and September, we doubled. We went from 8 to 15 from last year to this year. I don't care what set of statistics you take.

Mr. McARTOR. Reports or critical?

Mr. MOLINARI. Reports.

Mr. McARTOR. Okay.

Mr. **Molinari**. Reports. But I don't care which set of statistics you take, we find them increasing, increasing, increasing. To me that means the system is less safe. Indeed, I go further and I say the system is not safe. I may be alone in that conclusion, but that is still my feeling.

Mr. **McArtor**. You would—excuse me—you had begun to refer to the critical reports.

Mr. **Molinari**. Yes.

Mr. **McArtor**. Which I agreed with you, and I didn't think there was a substantial rise in critical reports for the carriers. And then you referred to the near-midair collisions reports.

Mr. **Molinari**. No, I didn't intend to mislead you.

Mr. **McArtor**. All right. But the system requires, in order to maintain safety in the system, it requires precision and discipline, which is almost immediately reflected back on the performance of the people in the system, be that technician, mechanic, air traffic controller, or pilot, the pilot being either general aviation or air crew. Those are precisely the Impact 88 focus themes, to develop a better sense of professionalism and awareness of the people in the system so that the precision and the discipline in our system on which we rely for this safety margin is preserved.

So, I would share with you concern, but I would also share with you that I haven't simply studied this phenomenon, but I have taken action to make sure that we get positive impact in this fiscal year.

Mr. **Molinari**. Well, I tell you, I would not be so disturbed about the increase in near-midair collisions, the total figures, if they weren't accompanied by a rise in that category, which to me, tells us we have real problems here.

Let me shift because the time is limited here. How many controllers do you have today, Mr. McArtor?

Mr. **McArtor**. Which standard of measurement would you like to use? [Laughter.]

Mr. **Molinari**. I purposely asked the question that way because I wanted to see your response.

Mr. **Oberstar**. I wonder if yours would agree with the subcommittee's.

Mr. **Molinari**. How many do think there are? I am not trying to trap you. How many controllers do you think you have in the system?

Mr. **McArtor**. All right. Let me—absolutely today, this afternoon, what's the last number?

[Pause.]

Mr. **McArtor**. That is our September 30 number: 15,433, which is the previous number of—previous way of categorizing controllers.

Mr. **Molinari**. All right. How many controllers do you have in the system today?

Mr. **McArtor**. This afternoon?

Mr. **Molinari**. Last month, whatever figures you have available. The most recent.

Mr. **McArtor**. Operational controllers, the date on this—September 30—11,362 operational controllers, 11,362.

Mr. **Molinari**. So that if asked the simple question how many controllers do you have, that would be the figure you would use; am I correct?

Mr. **McArtor**. Yes.

Mr. **Molinari**. That is the figure you have used. I appreciate that. That is a little different than past responses from past administrators.

But in your testimony at page——

Mr. **McArtor**. It is more than we had before.

Mr. **Molinari**. I'm sorry?

Mr. **McArtor**. It's different because it's more controllers than they were able to report.

Mr. **Molinari**. Well, I understand that. Yes.

Mr. **Oberstar**. The gentleman has one additional minute.

Mr. **Molinari**. All right.

Then let me ask one additional question. On page 5 you stated, earlier, "Debates on the numbers of controllers and FPL's have accompanied too much attention and masked the magnitude of the real problems we face." What are those real problems if the number of controllers and FPL's are not a real problem?

Mr. **McArtor**. Oh, they are a real problem. It's that the numbers don't tell the whole story. We spend a great deal of time agonizing over whether we are at pre-strike levels, the air traffic controllers. I think I have told you and other Members of Congress I am not interested——

Mr. **Molinari**. My time is limited, so I am sorry to interrupt you, but what caught my eye here is the fact that you made a statement here, "masked the magnitude of the real problems we face," indicating there are other problems that are very serious.

Mr. **McArtor**. Yes. Training; technology, acceleration in new technology; recapitalizing our system; telecommunications; consolidated facilities; levels of expertise; airspace management. Those are the real challenges to us today. Numbers of controllers aren't the only problem.

Mr. **Molinari**. The airspace management, you mentioned before about Los Angeles, an increase in the TCA space. Have you increased the number of controllers to accommodate the increasing requirement that they will have because they will have more airspace to watch from the tower?

Mr. **Oberstar**. The gentleman's time has expired.

Mr. **McArtor**. We are in the process.

Mr. **Molinari**. You are in the process of hiring more controllers to deal with the problem, but the assignment is already in place?

Mr. **Owens**. We are in the process of shifting current air traffic controllers to the Los Angeles TRACON to handle that workload. In the meantime, because it does take time to move them in and to get them trained, we limit service that we provide within that TCA.

Mr. **McArtor**. That airspace now has moved from en route to terminal control.

Mr. **Oberstar**. The gentleman's time has now expired.

The gentlewoman from New York.

Ms. **Slaughter**. Thank you, Mr. Chairman.

Welcome, Mr. McArtor. I certainly wish you great success. I agree with you that there are important criteria other than numbers, such as "people capability," the equipment, and the procedures. It seems to me that we have a very graphic demonstration of where all three failed this week in the Continental air crash. I appreciate that you are still investigating that. But there are some facts that we know already, and I would like your assessment of them.

The first one is that visibility from the tower was zero because of the snowstorm. The second seems to be that the Continental plane moved to be deiced without authorization from the tower. The next is that they then moved into line for takeoff and sat there for 20 minutes. We know that some of the survivors of the crash said that the deicer seemed to work better on one side than the other, which may indicate an equipment failure.

They apparently took off without approval. There were planes behind them, as I understand it, that had been approved for takeoff, which would indicate to me that the tower had little or no control over this airplane.

One of the most distressing things to me is that I understand McDonnell Douglas, who had manufactured this particular plane, said that, unlike other aircraft, this one could not stand any ice on the wings at all, that almost any small amount of ice could hamper its liftoff. They had so instructed all the carriers and, I would assume, all the air controllers, to this effect.

So I think what we have here is a plane that took off without deicing, we know how important deicing is because we have had that experience before, a plane that the manufacturer says cannot take off with any ice at all, and no visibility, and one that was not cleared either for deicing or takeoff.

So, have you had a chance to look at these facts and give us your assessment of your three criteria as to what went on in this crash?

Mr. McArtor. Well, I would answer that by saying simply that yes, I have followed it very, very closely. I am deeply concerned about any accident in the system. It was very, very tragic. But we hope to learn from this accident precisely what did cause it. The NTSB has the primary responsibility to determine that. The FAA supports it, of course.

But I think, within the public's knowledge of how aviation works and the degree of precision that we can work in adverse weather needs to be understood. The weather conditions at Denver at that time were not an unsafe condition for aviation. We operate in similar and worse conditions across the system on a regular basis.

Ms. Slaughter. Yes, I know you have the equipment to do that. But apparently there was no visibility. You depended——

Mr. McArtor. We carry special responsibilities in that regard, with regard to radio communications with aircraft, absolute discipline of clearances and responses from aircraft to tower. The tower, in fact, could see the end of the runway at that time.

But with regard to deicing, there are necessary rules within an airline as to how to deice aircraft. We all, I think, in the aviation business understand the critical nature of deicing. It has been brought home to us on other accidents.

So, I think the answer to your question is yes, we are working hard to understand the cause to see if there are things that can be improved, but I am not sure that it is you are asking me to make a conclusion on.

Ms. **Slaughter**. Well, let me just make it in the form of a statement then. The public's confidence obviously is shaken, and when we see these factors, the ones I justed stated to you, it says to me we haven't improved anything very much, we are still in the hands of fate. And that is very frightening.

I know we all have to go over to the House to vote, but there is one other thing that I have been asked to do. Since I am on this subcommittee, every time anybody has a problem with the airline, they come to me and ask me if I would tell you.

Yesterday there was a lot of trouble, Mr. McArtor. It came to me from several directions from people who were flying into Washington yesterday who tell me particularly the Pan Am shuttle out of New York City—you know what I am going to say—they were told in mid-flight that National Airport was closed and the pilot said he had no idea why.

They came down to Washington and they circled for a while, and they said, "We've closed it because there's a military flyover to commemorate Secretary Weinberger." He also told them that he wanted them to be comforted by the fact that there were 15 other planes circling National at the same time.

But that wasn't any comfort to them. It scared them half to death. One woman on one plane went into labor with no doctor onboard.

So it seems again that there was a complete breakdown in information because all the pilots I have heard from who had passengers on their planes claim that they had no idea, one, that National was closed, and second, why, until they were almost here.

Mr. **McArtor**. We have a process of notification that is literally called a notice to airmen, or a NOTAM. That NOTAM was issued the day prior regarding this flyby. So, yes, there was communication. Did carriers and pilots read it? Perhaps not. Did the flyby time exceed or extend beyond the time that we thought it would be completed? Yes. Did it complicate the airspace? Very much so. And I am glad to hear that I didn't receive all of the calls.

Ms. **Slaughter**. No, but I think once again, sir, it does point up the fact that if they didn't read it and they had it, then we are once again not communicating important information to pilots, to carriers, to controllers, in order to secure the safety of the airways. And that is critical to us.

Thank you very much.

Mr. **McArtor**. Yes. And it was an unfortunate circumstance, but it was safe.

Mr. **Oberstar**. Nancy, did you want to come back?

Mrs. **Johnson**. I have just a couple of questions. Most have already been answered.

Mr. **Oberstar**. All right.

Mrs. **Johnson**. In view of the time, let me just ask you, in your testimony you mentioned that you need more scopes and positions. How many more? Because in talking about whether or not we have enough controllers, that is critical.

Are we going to come back anyway, Mr. Chairman?

Mr. OBERSTAR. Yes. We are going to return.

Mrs. JOHNSON. Oh, all right. Fine.

Mr. OBERSTAR. I just wanted to ask the administrator to remain.

Mrs. JOHNSON. I just wanted to ask a little bit more about what you mean by new measures.

Mr. MCARTOR. Yes. I must apologize. I have commitments, Mr. Chairman, beyond noon.

Mr. OBERSTAR. Well, I understand that. I cancelled commitments this morning in order to accommodate that schedule. So we would ask you to remain for the other two members who still have some questions to ask, and we should be back in about 10 minutes.

[Recess.]

Mr. OBERSTAR. The subcommittee will resume its sitting.

The Chair must observe that Mr. McArtor has left. The Chair is very deeply disturbed about that attitude. This subcommittee three times reset the schedule to accommodate that of the administrator, cancelled a hearing that was scheduled for this day, in order to accommodate the administrator's schedule.

It is clearly the policy and has always been the policy of this subcommittee, under other Chairs, to schedule contrary views prior to that of the agency so that the agency will have the opportunity to respond. That is clearly understood. This particular date was set to accommodate the administrator's own wishes in direct conversation between us.

When we learned that the administrator had some other obligation, we moved the hearing up. I cancelled an engagement that I had early this morning to address other groups on another issue of interest to this subcommittee, disrupting other people and their plans.

I find it—I had probably better not use words to describe it. But it is certainly a breach of propriety that the administrator cannot make himself available. It was clearly indicated that there were two other Members who had questions to raise with the administrator.

His constitutional responsibility is to the Congress and not to some outside group, and that he could not delay for a few additional minutes I find inconsiderate and I find a breach of propriety with the Congress.

If we had arbitrarily set a date, if we had arbitrarily insisted would be a different ballgame. But we adjusted to the point where we didn't even have a committee room adequate enough to serve the purposes of the hearing. We were willing to do that in order to have the administrator and have his views on record.

Mr. Goldman.

Mr. GOLDMAN. Yes, sir. Mr. McArtor asked me to express his regrets. He just felt that there was a commitment that he had made that he just plain could not get out of.

What he asked is for Mr. Owens and I to stay to try to answer any questions that we can that the committee may have. He is committed to provide you an answer in writing for any questions you want to raise.

Mr. OBERSTAR. Answers in writing are no substitute for direct exchange with Members. He knows that. This hearing date has been scheduled long in advance, and there is no excuse for that response.

Mr. **Mineta**. Mr. Chairman.

Mr. **Oberstar**. The gentleman from California.

Mr. **Mineta**. I would also like to add my regret at the administrator doing this to us, frankly. I have that luncheon also on my schedule. It is a 12:45 lunch of the Radio Technical Commission for Aeronautics at the Grand Hyatt Hotel. Under our rule, we have five minutes of questions. Mrs. Johnson is coming back and has some more questions to ask. I would have been the follow-on questioner. I happen to chair the Subcommittee on Aviation, and I do have some questions.

I don't think it's that much of an inconvenience, because he is not giving a speech, he is only presenting the award at the William E. Jackson lunch of RTCA. And I don't think it would have been that great an inconvenience for him to have stayed around for another 15 to 20 minutes. I really am disappointed.

Thank you, Mr. Chairman.

Mr. **Oberstar**. Again, let me restate that the administrator's constitutional responsibility is not to some outside group. It is to the Congress. That is the first responsibility to discharge, and to his President. If the President directed him to be at this lunch at some particular time, that is one thing. But we have to adjust our schedules around here all day long because of events beyond our control, because of votes on the floor that we don't anticipate coming up.

I will discuss this matter directly with the administrator. I think it is an affront to the committee, and he is off to a bad start, in my opinion.

The gentlewoman from Connecticut was next to have the floor.

Mrs. **Johnson**. I regret the administrator's decision too, and I hope that in the future he will make different decisions. I know how frustrating it is—we all know how frustrating it is—to be required to be in several places at once. But this is an important place to be.

Now, I had asked him before he left about the number of scopes and consoles because that portion of his testimony bears directly on something of great concern to me, which is whether or not we have enough air traffic controllers in the system now and what we should be looking to in the very near term. As a sponsor of legislation whose specific purpose it is to give the administrator more flexibility to have more controllers that are well trained tomorrow and the next day, and as a cosponsor of legislation introduced by my colleague Mr. Molinari from New York that would inject a lot of new controllers into the system or at least open the possibility for FAA to bring on experienced people, I was very interested in his comment about scopes and consoles.

Mr. **Goldman**. Yes. And one of the programs that the Administrator has identified in his Impact 88 effort is tied to what we call an interim support plan, to acquire systems to cover the period between now and when all of the new NAS equipment is put in place.

What we have identified at this point is a little over 250 new work stations being required in air terminal facilities. We have not identified additional work stations for our en route air traffic control centers.

Mrs. JOHNSON. Then another comment that I was going to make is sort of ironic under the circumstances, but I am going to make it anyway. As a member of this committee that has spent many hours trying to get FAA to adopt a more responsive management style, it really is a pleasure to see that he is already out there getting input directly from his managers and getting his managers and controllers more involved in management decisions. [Laughter.]

Subtly, a direct contradiction of his decision of the last few minutes. [Laughter.]

The last two issues I wish to discuss, are related.

One is that you talked about having developed a new measure. First of all, the administrator says we need new measures; we don't need to get hung up in the old measures; we need to reform them. But he does talk about needing new measures, and you have developed a new measure for the centers.

Could you briefly clarify how that new measure differs from the old measure, and then thereafter, why the administrator uses the words that the new technology will "revolutionize the FAA's approach to controlling and maintaining the system"? So, both the issue of what is this revolutionary concept, what kind of vision should we be forming of the future of the system, because that will certainly impact our current decisions? And before that, how are you changing your measures to do a better job?

Mr. GOLDMAN. Let me take the measures part first. What the measures of today are call it, the new en route staffing standard as compared to the staffing standard that was in being to the strike, the one that we seem to be switching back and forth on.

Both of them are based on site observation. People have gone to the sites to observe the operations of the controllers and now we are looking at that, and will do the same, by the way, with our effort that we are starting up on our terminal staffing standard activity.

The older standard used what we called pace ratings to determine controller requirements, whereas the new one looks at job elements in a 15-minute period.

Mrs. JOHNSON. What is a pace rating?

Mr. GOLDMAN. It was the judgment of how much of a pace the controller was under in controlling traffic. It was almost a subjective type judgment, where we had other controllers who had been through it all, say, looking at a controller doing the job and setting a pace, or trying to establish a pace, whereas now we do it in a much more measured environment.

The prior one used observations of one hour, whereas we're doing it now on a 15-minute basis, much more specific and accurate.

Both use the 90th percentile as a factor in creating staffing. In the old standard we talk about relief; that is, relief to go get lunch, to get a cup of coffee, get some briefings. We used a 20 percent factor in the old standard. In the new standard we have identified specific times. Again, through the measurements we have taken with the controllers on how much time they are taking for crew briefings or signing on in the morning, this type of thing. So we have more specific times.

Maybe the thing for me to do is sort of submit this as a list to provide for the record. But it is these types of differences that describe how the newer en route standard differs from the older standard and as the administrator said, we are proceeding down this same road with the terminals.

Mrs. **Johnson**. And in developing this standard, what kind of input do you have from the controllers themselves? You say you are on site observing. What other aspects of the process are different?

Mr. **Goldman**. We are using controllers to help the observation of controllers. So the field people—and they may not necessarily be controllers from the facility that we are actually running the tests on; they may be from other facilities. So we use the expertise of the controllers to be a part of the process.

Mrs. **Johnson**. And is that a change?

Mr. **Goldman**. No, in all honesty, no. We used that same approach with the prior way.

Mrs. **Johnson**. I think it would be a good idea if you submitted that list, but I think that you need to really clarify for us what items represent a change.

Mr. **Goldman**. The list does go through a comparison.

Mrs. **Johnson**. Okay. Would you also send a copy to my office?

Mr. **Goldman**. Yes, ma'am.

Mrs. **Johnson**. Thank you.

[Information supplied by Mr. Goldman follows:]

CAMPARISON OF AIR TRAFFIC STAFFING STANDARDS 1980 VS. CURRENT

1980	Current
ARTCC:	
Based on onsite observations	Same.
Used pace ratings to determine controller requirements	Used job element times (as time to "look at PVD" approached minimum during 15-minute observation.
Took observations of 1 hour	Used 15 minute observations.
Used 90th percentile day	Same.
Staffs to average of two peak hours	Provides staffing for each 15-minute period according to traffic activity. Covers all peaks.
Provided 20 percent relief allowance	Provides explicit lunch break (30 min.) starting 4 to 6 hours after shift start. Provides additional hour for breaks, preduty, and pre-position briefings.
Assumes three shifts with standard start times	Provides scheduling model for 3-, 8-, or 12-shift start times.
Used 1.6 adjustment for weekend and leave coverage	Uses 1.73 for weekend coverage, leave, training, and other noncontrol requirements.
Adjustment for reduced weekend traffic	Adjustment for reduced weekend traffic and supervisory control work.
ATCT	
Based on regression between annual traffic and on-board staffing.	Based on regression between observed hourly traffic and observed requirement from work sampling.
Used step function (traffic intervals) to determine staffing.	Continuous function for each facility type and level.
Used 1.6 adjustment	Takes total controller hour requirement divided by 1,365 (controller hours available).

Mrs. **Johnson**. Then lastly, the issue of——

Mr. **Goldman**. The other part, on the technology?

Mrs. **Johnson**. Yes. Why do you describe it in such extreme terms as "revolutionizing" the job of FAA? What is the dimension of technological change that we should be anticipating?

Mr. **Goldman**. Well, looking at the what we call the brown book, the NAS Plan, looking at the systems that are coming down the road in the 1990's time frame, during the decade of the 1990's, that I feel is the revolution that he was talking about, and it includes everything from the Advanced Automation System and the sector suites that the controller will have in that period, to the software changes that would provide much more information support to the controller to help them do their job.

Nobbie, is there something else?

Mr. **Owens**. Yes. You know, I think we are talking about the probability of satellite surveillance and communications that would introduce a greater degree of redundancy and reliability into the system. The use of data link to transmit information directly to the cockpit without controller intervention.

Improved software programs that would provide for conflict probe and conflict resolution solutions to the controller to choose and allow him more time, let's say, to scan rather than to resolve certain problems. It would provide—the software—would provide metering capability to the tune of airspeeds and altitudes to assign to assist the controller in handling volumes of traffic.

It is those kinds of things I think we're talking about as being revolutionary.

Mrs. **Johnson**. And would it reduce the number of controllers needed?

Mr. **Owens**. I think it has that possibility. I would hope that no one at this point in time would draw that kind of conclusion. But one thing I don't think we want to do is start to take efficiency savings before the efficiency is actually introduced into the system. I think a lot yet needs to be done and studied and analyzed before you can come up with that kind of conclusion.

Mr. **Mineta**. Would the gentlewoman yield?

Mrs. **Johnson**. Yes.

Mr. **Mineta**. But isn't that what you're doing? You took the NAS Plan of 1982 and then said, "OK, here's what we're going to do in terms of spending money to improve the system, a host computer, everything else. Here are our air traffic controller needs." The NAS didn't come in as it was supposed to do, but you have been working on the work force pattern as if you had the NAS improvements.

Mr. **Owens**. As far as the air traffic controller work force is concerned, I would say no, we are staffing——

Mr. **Mineta**. Well, then the numbers, what about the numbers? Mr. Molinari asked about the numbers earlier. I don't want to go through the cooking of the numbers again.

Mr. **Owens**. The staffing——

Mr. **Mineta**. I have gone through that exercise on a number of occasions with you folks, including Secretary Burnley. And what we keep asking for is sufficient numbers of air traffic controllers, and you keep hiring on the basis as if we had improvements of the NAS with everything coming on.

Mr. **Owens**. Not in the air traffic controller work force, Congressman. The staffing standard is based on today's system, not on improvements that are scheduled to come online in the next 3 to 5 years.

Mr. **Mineta**. Well, I will pick up on that after I get my time then.

I appreciate the time from the gentlewoman.

Mrs. **Johnson**. Mr. Chairman, I yield back the balance of my time.

Mr. **Oberstar**. I thank the gentlewoman for those very pertinent questions.

The gentleman from California, Mr. Mineta.

Mr. **Mineta**. Thank you, Mr. Chairman.

Well, let me just explain to you again, Mr. Goldman, if you don't understand it, and you can relay it to Mr. McArtor, I am really corked off that he stiffs us, for a lunch. I was going to go to that lunch, too. I have it on my schedule, and I have the announcement here as to what that lunch is all about.

I don't think he is going to be giving a major policy address there. As far as I know, he's there for his presence to make an award to some young student who has excelled, and the student is deserving of that award. He is a graduate student at Ohio, electrical and computer engineering, Ohio University, joined the Avionics Engineering Center in January of 1985. Sanjaya Sharma is going to be receiving the William E. Jackson award, and "The Honorable T. Allan McArtor, Administrator, Federal Aviation Administration, will present the award."

Mr. **Goldman**. I will share your thoughts with the Administrator.

Mr. **Mineta**. Now, Mr. Molinari has talked about some of these figures from the past. Mr. McArtor also said,

> Oh, you don't really have to worry. I mean, those are on the basis of airborne hours and you ought to really go to events instead on the number of operations. Operations have increased.

The problem, it seems to me, is that then you are just measuring an event at one time. At least airborne hours covers the scope. It is, to me, a little more accurate. It would be a little better as a measure in terms of what's happening, instead of just plain operations.

Mr. **Goldman**. I think that Mr. McArtor shares your concern there, and the effort that he has going is to look at a whole new series of factors that should be used tied to his risk—his feeling that it's risk that we need to be watching for, not the direct count of things. And those kinds of areas I have heard——

Mr. **Mineta**. If he keeps talking about absence of accidents and what we ought to be doing is looking at the exposure to the risk, if that's the case, then it ought to be in terms of these statistics. We have drawn these things every which way you want. Do you want to take graphs, do you want to take bar charts? You know, we have looked at this stuff, too, and it's not a healthy picture.

The only thing the Surgeon General doesn't do right now is put a stamp on the tickets saying that flying may be injurious or not healthy to you. But I think there are some kinds of indicators that

Mr. Molinari, Mr. Oberstar, and others have been saying we ought to be looking at.

Look at the figures. I know that, what do they say, "Liars figure and figures lie." And trend data, I suppose, is the bugaboo of statisticians.

But if we were to take a look at the statement that he made on page 3 about exposure to risk, it seems to me that the traveling public is at a greater exposure to risk to a midair collision since air carriers' near-midair collisions are going up at a much faster rate than traffic growth.

Is that a correct statement? Air carrier NMAC's are growing at a greater rate than traffic growth?

Mr. **Goldman**. I cannot affirm that.

Mr. **Mineta**. Well, according to—in 1985 there were 31 air carrier near-midair collisions per million hours flown, in 1986 there were 40 air carrier near-midair collisions per million hours flown. That represents, as I recall, a 42.9 percent increase in air carrier near-midair collisions. Airborne hours climbed by 10.3 percent. That is not a cause for alarm?

Mr. **Goldman**. I think the way I would categorize it and what Mr. McArtor was trying to say is that we can't just look at one item and say——

Mr. **Mineta**. I would be happy if there were an arithmetic proportion. I would say, "Hey, no problem." But we have geometric proportions here, and that's why it can't be just better reporting because the total number of reports is up as well as the critical and potential hazards.

Mr. **Owens**. I don't think the Administrator was trying to say that he was ignoring it or was complacent with those kinds of statistics. In fact, the initiatives to address the air carrier involvement in near-midair collisions, I think, are incorporated in some of the initiatives that he has started on TCA revisions and equipments within TCA's and the proposal to look into establishing additional TCA's. That is specifically geared to addressing that problem of risk, if you will, in close proximity to major airports serving air carriers.

There are some other areas in the airport radar service area that we are implementing and looking to see if there are additional ones needed.

All of those efforts—Mode C requirement—are designed to address that problem, and it's recognized as a problem.

Mr. **Mineta**. Well, then let me ask, Mr. Owens, in Los Angeles you came out with the emergency order as it related to the TCA. You raised the level of control up to 12,500, eliminate the VFR corridor.

Mr. **Owens**. Yes, sir.

Mr. **Mineta**. Tell me, what's the difference between a VFR corridor and a transit route?

Mr. **Owens**. The VFR corridor was access to a pilot without regard to air traffic control instructions, period. There were—it is a defined airspace in which a pilot could traverse and fly it on a see-and-avoid concept.

The VFR transition routes, as we talk about them, will be controlled routes. They will have to be in contact with air traffic control, and air traffic control will monitor their flight through the TCA in that defined corridor that is established in that TCA.

Mr. MINETA. Now, is that transition route—from what I understand, it's there in order for you to know where the traffic is, or is it there to control the traffic?

Mr. OWENS. Both. In the first instance——

Mr. MINETA. Well, that's why I asked it in two pieces, because I thought we had been told, in public statements, to AOPA, everyone else, "Oh, no, we're not here to control the traffic, we just want to know where you are."

Mr. OWENS. Well, I guess I wasn't privileged to those conversations. But again, our approach to it would be to exercise more than just knowing where the corridor or where the transition route was. It's true that the establishment of the transition route would be in such a place that it would be purely separated from the bulk of the instrument or the air carrier traffic that would be using airport, and therefore it would be easy to allow access for that general aviation aircraft through on the VFR transition route.

You have to appreciate the fact that this concept is still under development, and you know, I would hate at this point in time to say that's it, period, because it could evolve to a more—to a freer access to that VFR transition route, but I am saying as it stands right now our thinking is that there would be some measure of control for aircraft utilizing the VFR transition route.

Mr. MINETA. Let me very quickly ask this. The problem that I see is that people who are designing the air traffic control system are instrument-rated, they are professionals, as you are, Mr. Owens. But what about that Sunday flier who wants to get out there and see and be seen, avoid, et cetera, who is not that sophisticated, gets in his 152, wants to fly from point A to point B. Is there a panel of people you listen to as you are trying to put this stuff together who are just plain, good old boys and girls who want to get out there and fly, not instrument-rated, not with the transponder with the Mode C requirement or capability, but someone who just wants to get out there and enjoy flying? Is there someone whom you talk to or who gets some input into the system so that it's not all of a sudden one that's designed for the very sophisticated corporate general aviation flier?

You know, when we talk about general aviation, I mean, that is the G4 pilot as well as the 150.

Mr. OWENS. Yes.

Mr. MINETA. But I just wonder whether or not— and I appreciate that you've got a big job to do—but I wonder if you've got anyone there who gets their two cents in who is just that 150 flier who wants to have a good time?

Mr. OWENS. I think the answer to your question is yes.

Mr. MINETA. You don't prove it to me by this.

Mr. OWENS. Well, it happens in two ways. On a regional basis, there are what we call hangar sessions or listening sessions where——

Mr. MINETA. And I have spoken at some of those, in fact, with Mr. McArtor at a session.

Mr. OWENS. And it is an effective means of communication. It's an opportunity to glean unfiltered information, if you will. That is an opportunity for the lay pilot to talk about the system and how it affects him.

The other way, which is a little more complicated is, after a proposal is made, say, to change the TCA or to establish a VFR transition route, there is comment period involved, and that pilot can in fact submit his comments whether they be for it or against it or an alternative, and by law of course we are required to review it and consider it.

Mr. MINETA. It sounds like some letters, "Thank you very much for your views. I will keep it in mind as this legislation comes before us." Yes, Mr. Owens.

Mr. OWENS. I mean, sure, that certainly could be a perspective. But the fact is, though, that we do want their input. We obviously don't get everyone's input.

I think the key to all of this for that kind of pilot that you're talking about is to make it as simple as you possibly can. And in establishment, for instance, of a VFR transition route, our approach would be to have visual ground references to that route so that a pilot doesn't need sophisticated equipment or a lot of experience in which to navigate.

In the Los Angeles area, for instance, he may report over, say, the Queen Mary, fly up or over a particular freeway that is kind of common knowledge to everyone, and not have to navigate by any kind of electronic means. We are trying to do that so that it is easy for him to comply because no system, no matter how good it is, can guarantee that you would be able to keep out every pilot or every person in the air out of restricted airspace. You have to follow the——

Mr. MINETA. Mr. Owens, I want to thank you very much. I have really overstayed my welcome on the chairman's doormat here. So I will submit some questions further in writing to the FAA.

Thank you, Mr. Chairman.

Mr. OBERSTAR. I thank the gentleman for his questions, which show great insight into the problems.

The gentlewoman from Maryland?

Mrs. BENTLEY. Thank you, Mr. Chairman.

Mr. Goldman, I do want to echo support of Mr. Mineta's protest about Mr. McArtor not being here.

I think the thing that disturbs me the most about what I have heard in hearings before this and other committees is that I am hearing many of the same complaints from air traffic controllers that I heard back in 1967, in 1968, in 1969, when I was a transportation writer for the Baltimore Sun covering the hearings after the first group of air traffic controllers began protesting their working conditions.

The scenario has not changed. That bothers me a great deal. This is 20 years later. Why don't we have the technology in place that we should have? What has happened?

Mr. GOLDMAN. There are obviously a lot of things that have happened. Technology is sophisticated. We have run into a tougher task than we believed we would have when we first started it.

Mrs. BENTLEY. It takes 20 years to find that out?

Mr. GOLDMAN. No. But when you look at what is going on now, we have essentially completely replaced all of what we call the

VORs—very-high-frequency—omnidirectional ranges with new solid-state types. That is over 800, I think.

We have replaced a good number of the ILS systems with more up-to-date—I would hesitate to give you a number off the top of my head, but a lot of the new equipment from the NAS Plan is now daily being delivered around the country. So it is starting to move now, but I do not dispute your point, that it has taken longer than it should have.

Mrs. **Bentley**. Where are we getting the equipment from?

Mr. **Goldman**. All different contractors.

Mrs. **Bentley**. In this country?

Mr. **Goldman**. Yes. It's all American-contracted equipment.

Mr. **Owens**. In fact, Westinghouse is a big provider of a lot of our equipment.

Mrs. **Bentley**. I really would appreciate your checking into that, and make sure it's all bought in this country. I would like that confirmed.

[Information supplied by Mr. Owens follows:]

All of the prime contractors of the major system acquisitions for the NAS Plan are American companies. They include IBM, Hughes Aircraft, Westinghouse, AT&T, Harris Corporation, Hazeltine Corporation, and others.

Mrs. **Bentley**. But what about your staffing standards and what are you doing to project the requirements that you are going to need when the NAS Plan is in place?

Mr. **Goldman**. Right now the staffing standard for air traffic controllers cannot—in fact, it's too early to project what the new systems are going to do because we're talking five or six years down the road before——

Mrs. **Bentley**. Oh, it's going to be that long?

Mr. **Owens** [continuing]. It's in place. Yes, ma'am, before it's in place across the board.

Mrs. **Bentley**. Before all of it's in place. And by that time we're going to need a new system.

Mr. **Goldman**. We need to start.

Mr. **Mineta**. Would the gentlewoman yield?

Mrs. **Bentley**. Yes.

Mr. **Mineta**. Could I ask about the AAS? Is it on schedule? When are we going, on the Advanced Automation System, when are we going to award?

Mr. **Goldman**. The decision is scheduled, I think, for the spring of 1988, the actual award will be made. Everything I see shows that we are still on schedule.

Mr. **Mineta**. But you're still holding to—was it either a May or June date?

Mr. **Goldman**. Somewhere in there, yes.

Mr. **Mineta**. Thank you.

Mrs. **Bentley**. I'm happy to do it.

One of the things that bothers me the most when flying—I am really disturbed if there is a delay in the landing because, we wind up circling above the field, and I believe it is hazardous.

Let me ask you, what measures can the FAA take to regulate airline scheduling during the peak hours at busy airports in order to prevent these long delays of airplanes having to wait in the air before landing?

Mr. GOLDMAN. Let me let Mr. Owens respond to that.

Mr. OWENS. First of all, one of the major changes we made in the air traffic control system after the strike of 1981 was to design or manage the system so that you would not routinely have airborne holdings. The only time, in fact, that you will go into an airborne hold is if weather conditions change that were unforecasted or change immediately and it causes a decrease in the capacity of that airport that takes us 10 minutes or 15 minutes to adjust to that capacity change.

Those incidences are very, very rare. We don't think you can ever totally guard against that from never happening. There is certainly nothing unsafe about that kind of condition. I mean, there are procedures both the pilot and the controller follow to assure that safety is maintained under those circumstances. But because weather is so capricious, you just can't say that I am going to eliminate it forever.

Was there something else that you had asked?

Mrs. BENTLEY. Well, what are you doing? Are you holding the planes beforehand? Is that why we have the long delays at the airports where you load a plane up and then you let them sit out there for an hour or two?

Mr. OWENS. Yes. They are generally held on the ground based on the capacity at their point of arrival. So that you don't have to be in an airborne holding situation.

Mrs. BENTLEY. I think every member here and every person who flies regularly on business would appreciate it if it could be worked out so that they weren't loaded on a plane, taken out, and held out there for another hour or two.

Mr. OWENS. Sure. There are four airports in this country that are what we call slot-controlled. That is based on capacity. It's O'Hare, Kennedy, LaGuardia, and National airports.

The other airports, through discussions, through FAA discussions with the airlines that serve those airports, have resulted in significant schedule adjustments, so that we have minimized the bunching that occurs through the scheduling practices. We find that, quite frankly, to be very effective and we think this last summer we have improved in the way that we are managing the volume of traffic that is in the system, and I think it's reflected somewhat in the reduction of delays, although I have to admit in the last couple of months we have had some pretty good weather and that was a main contributor to the steep decline in delays that we had in September and October.

Mrs. BENTLEY. Going back to the NAS Plan for a minute and staffing requirements, can FAA's current staffing standards be used to capture productivity improvements?

Mr. GOLDMAN. Yes, they can. Now, if you're saying if we look at the standard today, can we find some areas for future productivity improvement, I wouldn't say yes to that. The standard is once we have got the system, to determine how do we best staff for it.

Mrs. BENTLEY. All right. And would a modernized NAS require the FAA to develop new controller staffing standards?

Mr. GOLDMAN. Oh, yes, definitely.

Mr. **Owens**. And we will be doing that.

Mrs. **Bentley**. One other question. How long a training period does an air traffic controller undergo today versus 10 years ago?

Mr. **Owens**. There is virtually no change in the training program as it was 10 years ago as far as time and exactly what the trainee goes through to be checked out.

It's true that there has been a change in awarding grades to the controller. That is, when he reaches certain levels he is promoted on the go, so to speak, and that is different from the way it was before. But the actual training has not changed one bit from 10 years ago.

Mrs. **Bentley**. The basic training still holds. OK.

Thank you, Mr. Chairman.

Mr. **Oberstar**. Thank you. I appreciate the gentlewoman's questions and the important insights they offer.

The gentleman from Colorado, Mr. Skaggs?

Mr. **Skaggs**. Thank you, Mr. Chairman. I appreciate the opportunity to join your subcommittee and ask a couple of questions this morning—I guess it is now this afternoon.

I would like to inquire about some things that I guess I would characterize as qualitative aspects of the controller system rather than the quantitative number-crunching side.

I assume that you would both agree that the morale, education, and training components of the system are as important to its overall ability to function as abstract numbers are.

With regard to education, I would like to pick up on your comment that there has been no change in the training program over the last 10 years. What are you currently experiencing as the dropout or washout rate from the academy?

Mr. **Owens**. The failure rate at the academy is about 40 percent.

Mr. **Skaggs**. Is that acceptable?

Mr. **Owens**. Acceptable in terms of, is that an efficient way to do things? No. But it is the design of that school at the academy in Oklahoma City in fact to screen out those people who indicate that they don't have the aptitude to in fact control aircraft. So the premise is that if you wash them out, if you will, at the academy, then they don't go into the facility to go into OJT training and then wash out somewhere in the OJT phase of training.

Mr. **Skaggs**. I understand that you don't want people who are not qualified or have the aptitude getting into the system, but it would seem to me that that high failure rate suggests that prescreening could be vastly improved. What are you doing to do that?

Mr. **Owens**. One of the things we've found through analysis of the students that go through there is that in the screen test that they take prior to going to the academy, that if they score 90 or above—in fact, the higher above 90 that they score on that test, the greater the chance for success in getting through the academy and in fact checking out in the facility.

The obvious problem that we have is that all of the people that we attract to take that test and compete for a job as an air traffic controller, we unfortunately at times have to in fact select people who are a little bit lower than that. That contributes to that washout rate at the academy. So with the hiring rate that we have, we are kind of in this position of hiring folks who are not in that upper percentile of the people who pass the screen test, the initial test.

Mr. GOLDMAN. If I could just add one thing, this is again one of the areas that the Administrator has focused on with the FAA, and he feels that we need to be doing more to retain the people that are going through the training. So part of the ongoing studies that he now has is to look at ways that we can do that.

Mr. SKAGGS. It would have been nice to hear that from Mr. McArtor himself.

Have you investigated the possibility of getting some private sector assistance in either conducting the prescreening or helping you to refine your preselection tools and standards so that you can improve that washout failure rate?

Mr. OWENS. Well, we currently have what I would characterize as a top-to-bottom review of air traffic controller training from hiring and the way that we hire, including the screening, right through the OJT phases within the facility. I believe that within a month or so we will start to have some of the information coming back from those reviews and studies about the training program.

Mr. SKAGGS. As I mentioned to you before we started, I, at least have been in touch with or been contacted by one firm that would be happy to accept the responsibility for at least the prescreening phase on a guaranteed, "no performance, no charge" basis. I would like to get in touch with you if you would be interested.

Mr. OWENS. Sure.

Mr. SKAGGS. Switching to one other subject briefly—I appreciate the time, Mr. Chairman—one important factor in morale at the air traffic control centers is the belief of the personnel there that they are living under an equitable and rational system of compensation. Let me ask if you would agree with that proposition?

Mr. OWENS. Sure.

Mr. SKAGGS. In dealing with the center that is in the district that I represent, it seems to me that the current relatively mechanistic, arithmetical approach to determining grade levels for a given center fails to factor in some much more subtle, complicated, qualitative considerations.

As I mentioned to you, I am a bit perplexed at having written to Mr. McArtor at least 10 weeks ago requesting an explanation from him of the FAA's rationale for the current system—which I am trying to understand—and having had no response to that inquiry. I invite you to expedite that. I would also like your explanation of how the current system of compensating centers based upon gross traffic rather than anything else makes any sense.

Mr. OWENS. I apologize for the delay in the response, and I will check when I get back to the office and make sure that we do respond.

Facility classification is really an OPM function based on several factors, but primarily it is based on aircraft activity at the facility. I am aware of the problem that you are speaking of at Denver center because the grade level at Denver center, for the convenience of the rest of the committee, is one grade lower than Denver tower. That does create a problem. But you have to appreciate the fact that Denver center probably has 10 times the amount of airspace and probably 10 or 15 times the amount of people in the facility to handle the traffic.

It's a different kind of control that is done in the center versus the terminal area just because the airspace itself is a constraining factor.

We have looked in the past to see if we could introduce complexity as part of facility classification. We found it to be a very difficult, very difficult thing to do. And that's not to say that it's impossible, because I am not really that much of an expert in it, but one thing we did find is that whatever complexity was in a given facility, volume, aircraft movement, was the complicating factor in that. It was the element that created the work load, if you will.

If I could give you an example of that, in Colorado, with the mountainous terrain, you would have restricted airspace in which to maneuver aircraft, but obviously—and I will use a ludicrous, maybe, kind of comparison—if you had two airplanes you could easily handle those two airplanes, but the minute you had 10 airplanes in that airspace it would become a more difficult thing to do. That is that relationship of volume.

I am not here defending that as the most perfect way in which to classify field facilities. But that is kind of the way in which it is done.

Mr. MINETA. Would the gentleman yield?

Mr. SKAGGS. Certainly.

Mr. MINETA. I was not here, unfortunately, when the GAO gave their testimony. But on page 2—I am surprised you express some surprise, because they say in their testimony,

> To project requirements for air traffic controllers, FAA headquarters uses two separate standards, one for airport terminals and another for air route traffic control centers.

Mr. OWENS. Staffing standards.

Mr. MINETA. Then I misheard you? I thought you said you were surprised——

Mr. OWENS. No, we are talking here about classification.

Mr. MINETA. OK.

Mr. OWENS. And that is the FPL grade.

Mr. MINETA. But the grade, does it not relate to the amount of traffic or——

Mr. OWENS. To the amount of traffic, yes.

Mr. MINETA. Because you look at the historical aircraft activity, you look at aviation growth, you look at work time available for training, other activities; you make these adjustments.

Mr. OWENS. Congressman, you know, you're right except that we're talking two different things here. In one instance, with Congressman Skaggs, we're talking about again facility classification, not the staffing standard itself.

Mr. MINETA. Not the staffing standard. OK. What about the TRACON, is that different from——

Mr. OWENS. That, too, is dependent on volume, on traffic activity.

Mr. MINETA. And that is lumped in with the terminal side or with the air route?

Mr. OWENS. With the terminals.

Mr. **Mineta**. On the terminal side.

Mr. **Goldman**. But the tower cab is separate from the TRACON. There really are two standards.

Mr. **Mineta**. Right. I understand it's separate, but I was just wondering in terms of the GAO said that there were two separate standards, one for airport terminals and another for air route traffic control centers, and I was wondering about TRACON's.

Thank you very much.

Mr. **Skaggs**. Just in conclusion, you say I need to understand, and I do need to understand, and that's why I wrote asking for an explanation.

Mr. **Owens**. We will see that you receive one.

Mr. **Skaggs**. It seems to me that even if a more complicated system produced the same conclusions, it would at least satisfy the people who work for you that you have made a good-faith effort to take their circumstances into consideration on a level of sophistication greater than the amount of traffic that gets handled. I think that would have a significant effect in their feeling that they are being heard and that there is a rational system for evaluating Denver versus Seattle versus Chicago versus wherever. I think that this would make a real improvement in the attitude of the people who work in the lower-level centers.

Thank you very much, Mr. Chairman.

Mr. **Oberstar**. Thank you. The gentleman is right, on target with those questions. We appreciate his participation.

Since the current terminal staffing standard has been downgraded from what it was some years ago, and that was done in 1985, it is based on the 187th day of the year, some might take it to mean that for 186 days the terminals are understaffed or under stress. What is your response?

Mr. **Goldman**. Based on the approach that we're taking, yes, if it's staffed for the midpoint, then for part of that time it is under and part of that time it is over. And the further away that you get from the midpoint, the more extreme it becomes.

I would like to emphasize, though, that is talking the staffing standard. Again, as I said earlier, the actual staffing in terminals, when we look across the board, is greater than what the staffing standard says it should be. So we have recognized that.

Mr. **Oberstar**. It may be greater at some times of the day and less at others, and that varies from one terminal to another?

Mr. **Goldman**. Correct.

Mr. **Oberstar**. Staffing standards should be the basis for proper allocation of employee resources. And it is the view of this committee and of the GAO in previous testimony that standards should realistically reflect field operations. Are you in concurrence with that?

Mr. **Goldman**. We agree. We are proceeding down that path.

Mr. **Oberstar**. Do the actual field operations today reflect the current staffing standards?

Mr. **Goldman**. The center, the air route traffic control center, is close to the standard. Now, I have to say it that way because, as it was said by GAO, we send a number to the regions of what the standard says for a given air route traffic control center. The regions do have a prerogative based upon circumstances that they know better there at the local level to do some adjustment in those numbers.

So the centers, I believe, are fairly close to what the standard says. The terminals are not. I said we actually are staffing the terminals with more people than what the standard says today they should have.

Mr. OBERSTAR. Well, since the strike, the resources in the field, the controller work force, have been very limited, increasing as more controllers are added to the work force. But given that situation, do you feel that facility managers are using their resources, managing their personnel as effectively and efficiently as they can or should?

Mr. GOLDMAN. Mr. Owens gave a part of that. But there is, you know, always room for improvement, whether it's in an air traffic control situation or an administrative situation. I am sure that there are points that they could be doing more than they are doing today.

Mr. OBERSTAR. That may vary from facility to facility within the system. We won't ask you to rate them at this point, but I think that is something we do want to look at.

Mr. OWENS. I would echo that comment, and maybe a good example or at least an indication of an awareness on that is that through our evaluation process we do look at the way resources are managed within facilities, and I might add that the center in Minneapolis happens to be one of the better examples of utilization of resources, quite frankly. They are using the eight shifts, and it is a very effective way in which to utilize the resources. But it is a slow process, and we haven't reached everyone out there yet.

Mr. MINETA. Mr. Chairman.

Mr. OBERSTAR. Yes, Mr. Mineta?

Mr. MINETA. Could I ask is that because of civil service rules?

Mr. OWENS. No. No, not really.

Mr. MINETA. You are not hampered by that?

Mr. OWENS. No. I think it's a factor of past practice. You know, people just are reluctant, most of us, reluctant to change the way we do things, just because we're comfortable in the other way of doing it.

Mr. MINETA. But yet, on page 5 of Mr. McArtor's testimony he says he doesn't have the flexibility. He says, "I need more flexibility."

Mr. OWENS. In some areas.

Mr. MINETA. What does he need?

Mr. OWENS. In some areas.

Mr. MINETA. I mean, it's either civil service rules, OPM that says, "Uh huh, you can't do that." If it's a matter of exercising someone's managerial skills, you don't need a change in rules and regulations or new legislation from here.

Mr. OWENS. That's true. You know, I would hesitate to respond or react for Mr. McArtor as far as what the flexibility is that he's looking for.

Mr. MINETA. Well, we are, too.

Mr. OWENS. But there are other flexibilities, I think, that would be good to have, like incentives to attract people to some of the busier facilities like Chicago and having them compete for that facility and then stay there for a given amount of time rather than, say, going to Tampa or some other attractive kind of location. You know, those flexibilities might be nice to have, which we don't.

Mr. **Mineta**. Thank you.

Mr. **Oberstar**. On page 4 of the testimony, the administrator says, "Today's controller job is fundamentally different from before the 1981 strike."

What yardstick do you use for making that statement? How does today's job differ fundamentally—that is a very, very strong word—fundamentally from the pre-1981 era? How is that era vastly different in operational and technological time?

Mr. **Owens**. We talked about just earlier with Congresswoman Bentley that since 1981 we in fact made a conscious decision not to go into an airborne hold as a routine of air traffic control management. We don't do that. That is a big fundamental change in how we manage air traffic control.

The predominant role now that central flow—or flow control—that the traffic management coordinators play in the management of traffic between facilities is significant from the old days, if you will.

I talked earlier about the mix of traffic. What deregulation did in fact was to foster a phenomenal growth of commuter aircraft that have come into the system now and in fact mix with the larger aircraft at the major terminals that we have in the country.

So that is another big, fundamental change in the way that traffic is handled and worked in the country.

Mr. **Oberstar**. Well, I think that language overstates the reality of what you're dealing with and has an impact on your view of establishing staffing standards. What you are describing is a shift in the work load, not a fundamental change in the controller's job. A controller's job is still the same. The work load presented to that controller is different in some respects.

Mr. **Owens**. The controller is still separating aircraft.

Mr. **Oberstar**. Yes. That's right. And I think maybe he is presented with a different kind of work load at varying times of the day, he or she. But that job is still the same.

Mr. **Molinari**. Would the gentleman yield?

Mr. **Oberstar**. Yes, I'd be glad to.

Mr. **Molinari**. You have hit on a very important point, Mr. Chairman. I was going to get into that same line of questioning my next time around.

I think it is more than coincidental that that provision is in the statement of Mr. McArtor's. If you look at the sentence before the one you read, I think it lends more light on what the statement is supposed to mean. That sentence says, "Today's controller job is fundamentally different than from before the 1981 strike." Then the next sentence, "We must stop comparing ourselves to that vastly different operational and technological time."

I mean, this is sheer nonsense. I noticed a controller in the back of the room shaking his head in a negative fashion very vigorously. The job is not fundamentally different, and I think we can prove that, Mr. Chairman, by the fact that 760 came back into the system through the appeals process in very short order and were able to take their recertification as FPL's. I think you justifiably point out that there are changes in duties and traffic patterns and what-not, but I don't think we see a fundamental difference, and that is the point you underscored so well.

I think that that may be at the heart of what we are discussing here today and may be one of the big differences between what you people at FAA believe and what some of us up here believe.

Thank you, Mr. Chairman.

Mr. OBERSTAR. I thank the gentleman for that observation.

Mr. MINETA. Mr. Chairman.

Mr. OBERSTAR. Yes?

Mr. MINETA. May I also ask if I may tread on your good nature here?

Mr. OBERSTAR. I would be glad to yield.

Mr. MINETA. Again, it says, "We must stop comparing ourselves to that vastly different operational and technological time." If the NAS Plan had progressed as we had anticipated in 1982, then absolutely. But we are still in the age of vacuum tubes, for criminy sakes. FAA, I always say, is the world's largest purchaser of vacuum tubes. [Laughter.]

So we can't—that statement in there is absolutely wrong because we have not changed that much at FAA since August 3, 1981, and it's now because of the Host computer coming online and that has only been within the last several months that all of the centers are getting the Host computers now. But we really are still in that same time period.

Mr. OWENS. Technologically, you are correct.

Mr. MINETA. And I think Congresswoman Bentley was talking about, as was Congresswoman Johnson, talking about here is the new host computer. It has tremendous capabilities—but we haven't even hooked up additional terminals, other scopes—the ability that that new host computer has to what we have now got in place.

So, you know, we are still way behind in terms of where we ought to be. So I think it is all right and I think it is proper for people to still compare today to where we were on August 3.

Thank you, Mr. Chairman.

Mr. OWENS. I think the statement more references the operational changes. Again, the proliferation of the hub-and-spoke operation and the different types of aircraft that have been introduced into the system and the different flows of traffic throughout the country, those are the basic changes from the old days. But it's true, controllers still separate the aircraft and they're using the same equipment.

Mr. GOLDMAN. That's correct.

Mr. MINETA. Then it seems to me that that even magnifies it that much more because you haven't been reflective of that change to the hub-and-spoke, the intermix of the commuters with the national carriers.

Mr. OWENS. But we have, Congressman Mineta, but not in an equipment sense. We have done it procedurally. We have now established an extensive tower en route function to try to segregate the slower moving commuter-type aircraft away from the jet aircraft.

Mr. MINETA. But the East Coast Plan where you have routes——

Mr. OWENS. The East Coast Plan is another good example of that, where we have completely changed—I mean, completely changed—the flow of traffic in that area.

Mr. MINETA. Are you comfortable with the ability of an air traffic controller, even maybe today's FPL, to handle holding aircraft over an airport?

Mr. OWENS. Well, yes, I am, because again there are procedures, safe procedures in which to do that.

Mr. MINETA. Unless someone takes over. I will tell you, I came into San Francisco a couple of months ago—not even a couple of months ago—a couple of weeks ago and ran into adverse weather, and they had us vectoring all over the place. Frankly, the air traffic controller, you could hear, right away you could tell another new voice came in. To me, it was a supervisor who was now taking over because the air traffic controller who had that sector really didn't know how to handle airborne holding.

Mr. OWENS. But it could have been a trainee that was working the position up to the point that the complexity of it necessitated an instructor to take over, and that's kind of routine.

Mr. MINETA. At 5:30 in the afternoon, if you've got a trainee working that 4 to 7:30 shift, then you better get your priorities reordered.

Mr. OWENS. But he has to. You do have to.

Mr. MINETA. Don't you start him at, let's say, midday or midnight and then work them into a position where they're going to be able to be——

Mr. OWENS. Sure, you do that, but at some point in time you keep progressing to the point where you work heavy, complex traffic, which would be the evening rush.

Mr. MINETA. I sat there and I listened to a new voice coming in, and all I could say was, "Boy, am I sure glad that's a different voice, because that's a more experienced voice I am hearing, and I know this guy knows what he's doing."

Mr. OWENS. I would bet that that was the instructor. But, of course, I don't——

Mr. OBERSTAR. Well, that is the point that we are getting at in these hearings is what underlies, what is the thought process that underlies FAA's management of this system? How do you decide how many people are necessary for each individual facility in the system?

If you are trying to paper this over, as the Administrator's printed word appears to be do, which he then read to say that we have to stop comparing ourselves to that vastly different operational and technological time, it isn't vastly different.

In most facilities in the country, the same computers are in place today as were in place August 3, 1981. Terminal Doppler radar weather systems are not in place, though this committee has recommended them time and again. NEXRAD is not in place, though this committee has recommended it. TCAS is not fully operational, though this committee recommended it a year before the Cerritos crash.

We are not dealing with a vastly different technological time, and if that is the administrator's thinking—a matter that we wanted to explore with him before the cocktail hour over at this party he is attending—then there is something wrong with the way he is approaching the thought process of adequately staffing the system.

Mr. **Owens**. Again, I don't think he was referencing the technological changes, because there haven't been——

Mr. **Oberstar**. That word should have been taken out of there because it reflects a thought process that is very disturbing. I hope you are disturbed by it.

Another matter that I wanted to explore is experience level included in your consideration of staffing standards for a particular facility. I am talking about the distinction between FPL's and developmental controllers and operational controllers and some other euphemisms that have crept into the system terminology in these past few years.

What I heard from the administrator—and I am willing to give him the benefit of the doubt—what he said was a hypothetical situation: We could have a facility fully staffed with people who are less than FPL status, not a single one in the facility, and meet the staffing standard.

Mr. **Goldman**. The staffing standard does not key to a full performance level controller, it keys to a controller who is trained and capable of operating at a given position. There is a difference, and I will let Mr. Owens go into it in more specifics, if you would care to. But the difference is the full performance level controller is qualified in several positions.

Mr. **Oberstar**. Correct. And gives that level of experience.

Mr. **Owens**. That is not necessarily true. What it gives is flexibility, I think, within the facility, the more positions that you are checked out on. But for someone who goes through the training program and gets checked out, certified on a position, he works that position as an FPL. He can't work any other position, but the one that he is certified on, he works it as an FPL. That is his experience on that position.

Mr. **Oberstar**. You would still want to have people certified for the position working in those facilities. I mean, that is a factor, that's an experience factor, is it not?

Mr. **Owens**. The more positions that you are certified on is an indicator of the length of time you have been in that facility, which can equate to experience in the facility, yes.

Mr. **Oberstar**. Now, it did take 5 years in the past to achieve FPL status. What is your standard or yardstick by which you measure FPL status? What time in service is required to achieve FPL status today?

Mr. **Owens**. In our air route traffic control centers, a good air traffic control trainee can be certified to FPL status in three years.

Mr. **Oberstar**. In 3 years?

Mr. **Owens**. Yes, sir.

Mr. **Oberstar**. What period of time to be checked out at one position?

Mr. **Owens**. Well, it would depend, of course, on the complexity of that position, that first position that he would train on.

Mr. **Oberstar**. All right.

Mr. **Owens**. But that could happen within 6 months of him being in the facility.

Mr. **Oberstar**. And you consider that to be sufficient?

Mr. **Owens**. He doesn't get certified, Congressman, on the position until he meets a very stringent criteria of capability to work that position unmonitored. So, his experience level at the time of certification is adequate.

Mr. **Mineta**. Mr. Chairman.

Mr. **Oberstar**. I yield to the gentleman.

Mr. **Mineta**. If you are still working under the waiver of the Whitten Amendment?

Mr. **Owens**. Yes.

Mr. **Mineta**. Whitten rule. If we were to do away with that, what would be the impact? You know, we go back to the experience level that Mr. Molinari has talked about, and since August 3 of 1981 you have been under the——

Mr. **Owens**. We go back to 5 years.

Mr. **Mineta**. Would your air traffic controller now at that point then be able to handle airborne holding, or is flow control such an integral part of the operation now——

Mr. **Owens**. Flow control is in fact the heart of the air traffic control system.

Mr. **Oberstar**. Well, these are very critical issues that we have to pursue. These reflect the attitude, the state of mind the agency has in approaching this matter of staffing standards and whether facilities are adequately staffed.

Flow control has become an essential management tool now, has it not?

Mr. **Owens**. Yes, sir.

Mr. **Oberstar**. And did I describe it accurately as sort of lowering the peaks but raising the valleys of traffic?

Mr. **Owens**. In a broad sense.

Mr. **Goldman**. Spreading the work load.

Mr. **Oberstar**. Spreading the work load.

Mr. **Goldman**. Yes, sir.

Mr. **Oberstar**. Throughout the day. It has to be done, but I would think people feel a whole lot safer sitting on the ground than they do holding in the air. Pilots feel better about that. The airlines may not like it because of the economics, the pressure it puts on their operating economics.

But given that factor, though, let me come back to a point I raised with the administrator. Doesn't this new element in air traffic control mean that there is a higher level of work load throughout a greater period of the day for controllers than there was in the pre-August 1981 era?

Mr. **Goldman**. You are keying to the peaks again, and since we have leveled off the peaks, they are working—are they working harder for longer periods of time, not having gaps or times that they can sit back and relax? The way I would sort of correlate that is with flow control it won't allow the controller to get saturated the way a controller could get saturated in prior times without flow control.

As I understand it—and, Nobbie, correct me if I am wrong—flow control is not only looking at the terminal itself, but if there are parts in the en route system where the traffic is clustering too much, that it will take some action to try to smooth that out, too, for the controllers.

So, you could look at it from the standpoint that, yes, there are less valleys so there is more time that the controller has to spend doing a harder job. But I think, from my observation, it's more balanced across the board and it is not a harder effort for him.

Mr. **Owens**. The human factors people would tell you that if you had a more stable work level, that it's a lot better than your peaks and your valleys.

Mr. **Oberstar**. Do you keep track of the amount of time an individual controller spends at controls continuously?

Mr. **Owens**. At any given time?

Mr. **Oberstar**. Yes. At a given time.

Mr. **Owens**. Yes, we do indeed.

Mr. **Oberstar**. Isn't it up from 4.5 to about six hours now?

Mr. **Owens**. If you want again to compare to pre-strike, I think the average then was around four hours on position.

Mr. **Oberstar**. Yes.

Mr. **Owens**. The average today is about 5.5 hours.

Mr. **Oberstar**. And it may vary; it may be substantially higher at some facilities?

Mr. **Owens**. Sure. There are some facilities, sure, that are a little higher.

Mr. **Oberstar**. That then suggests a higher level of stress and need for more people to relieve.

Mr. **Owens**. A higher level of exposure to the control situation. I am not sure that is necessarily a higher level of stress.

Mr. **Oberstar**. Of course, the next question is how many aircraft is that controller managing in that period of time if he has an average of 20 to 25 aircraft——

Mr. **Owens**. Very critical.

Mr. **Oberstar** [continuing]. On his screen at a time for that length.

Mr. **Owens**. I couldn't agree with you more. That's very critical. Now, that part is very critical, and that is where the supervisor is supposed to be there as part of the air traffic control team to ensure that no one is ever in a position to be overloaded. That's easy to say, and I know there are times when that happens. But corrective action needs to be taken immediately and I think is taken.

Mr. **Oberstar**. Yes. We are not talking about the case where such as what you just referred to is the aberration. We are concerned about overload being a daily factor.

Mr. **Owens**. Well, as Mr. Goldman mentioned, we have the capability now to monitor and adjust the flow rate going through those sectors, not only in the terminal area but in the en route, en route traffic control centers. We did that last summer, and I think did that very effectively. If we err, quite frankly, we err on the side of overdelaying aircraft rather than underdelaying them.

Mr. **Mineta**. Mr. Chairman.

Mr. **Oberstar**. Yes, I yield to the gentleman.

Mr. **Mineta**. In a way, I hear you trying to take credit for the fact that you've got a work force that is handling more traffic, more aircraft, more operations, but at the same time, because of the technology of the aircraft, the glass cockpit, 737-300, the 757, 767, now you can take that same plane across this Casanova and maybe somewhere out here over Ohio you'll give them direct to Coledale, they will go up to 41,000 and you don't even have to worry about that guy anymore, or her.

So, it seems to me that technology of the aircraft or the airframe is such that you are being relieved of some of that because they have now got the capability of just going zippo on their own.

Mr. OWENS. True. That has allowed some flexibility in the system. That is very true. It is still at the end of the line, if you're going to San Jose, even though you came direct from Washington, you do eventually have to get in line with the conventional flows.

Mr. MINETA. Now that you mention San Jose——

[Laughter.]

Mr. MINETA. You know, we came into a holding pattern at Modesto, and then we went to a holding pattern at Seads.

Mr. OWENS. Sure.

Mr. MINETA. And we were cleared into San Jose, and the next thing you know we were sent to Point Reyes and brought all the way around and into San Jose.

Mr. OWENS. There was weather, I take it. Rain in the area?

Mr. MINETA. There was rain.

Mr. OWENS. Again, you know, I can only guess.

Mr. MINETA. I realize that.

Mr. OWENS. I used to work, by the way, at San Francisco, so I am a little bit familiar with the area.

Mr. MINETA. Yes.

Mr. OWENS. But what happens a lot of time in that kind of weather condition is that if there is a runway change at San Francisco, you will change the flow of traffic, which would require a massive reroute of that traffic, which could have made you go up to Point Reyes and come back down in a different traffic flow. That is simply to maintain order because there is an awful lot of airplanes in the air at the time of that change. I am guessing, but that is something that could have happened.

Mr. MINETA. Yes, 4,800 pounds of additional fuel.

Mr. OWENS. Yes, sir.

Mr. MINETA. I thank the gentleman for those comments.

I apologize to the gentleman from Pennsylvania for overstaying my time.

Mr. CLINGER. No, that is my fault.

Well, thank you, Mr. Chairman.

I just want to join with those who have indicated their dismay at the decision of the administrator to leave when we were considering a topic of great importance. Having sat in your position in a former life, I realize this is not your problem or your fault, but I do hope that you will convey the fact that this is a unanimous feeling on the part of the committee.

Just a couple of things that I wanted to follow up on. In your response to Mr. Skaggs about training and the very high washout rate of 40 percent at the academy, I take it that you indicated the people who take the prescreening test before admission to the academy and score above 90 percent tend to do pretty well, tend to complete the course and graduate from the academy. But that you indicated that you have to accept a number of applicants who do not score as well.

I wanted to get at that a little bit. Is it because there are not sufficient incentives to attract the caliber of people? Why do you have to go below that 90 percent? Shouldn't you have the opportunity to have enough applicants meeting the first criteria to indicate that they would complete the training?

Mr. OWENS. I'm not sure we have the numbers.

Mr. GOLDMAN. No, I don't have the numbers, but I feel the FAA has an aggressive program to try to find candidates to become air traffic controllers. I'm not sure of the right words, but the job is open continuously now for anyone who wants to apply, and there are a lot of advertisements in the paper, a lot of pressure from the regions to try to find applicants. And I think what we're talking about is of the applicants that we find, the ones that pass the test above 90 percent stand a better chance of making it through the system than those that are below 90. This isn't to say that we don't go ahead, and if we have a need for additional people, to take the people that are below 90 percent and run them through the program, too. We have a higher failure rate, but some of them——

Mr. CLINGER. All right. How low do you go, and what is the absolute pass level?

Mr. OWENS. Well, I think we can go down to 70, but I believe we really never try to get below 80, and very seldom below 85. When I was talking about some of the training reviews and initiatives that we were talking about, we are looking to streamline the way in which we hire people so that when someone takes this prescreen test we can just about offer him a job on the spot, so to speak, so that he doesn't go looking—you know, there is a lot of competition for these folks—so he doesn't go looking for another job. We think we're going to be able to do that. We have already had some conversations with OPM to try to work out some reasonable way of doing this. And that has got to be a big help, I think, that we don't lose the good people.

Mr. CLINGER. This would be an additional incentive that you would be able to offer right up front.

Mr. OWENS. That's right. But you have to appreciate the fact that our prospective employees go through another screening process as far as background checks are concerned. A security check is given on the individuals, and that has become a very time-consuming, laborious process.

Mr. CLINGER. That discourages people from coming into the system?

Mr. OWENS. Very true. We are trying to steamline it and make it as people-friendly as is possible, I guess.

Mr. CLINGER. Where do most of your recruits come from now? Are they mainly from the military?

Mr. OWENS. No. There really are very few from the military nowadays. It used to be in the old days that that is where they came from. But generally they are college graduates who are just entering the job market.

Mr. CLINGER. With what kind of a background normally?

Mr. OWENS. Almost you name it. There are all kinds, business to pre-law.

Mr. CLINGER. So, there is no particular training that you look for coming into the system then?

Mr. OWENS. No, not really.

Mr. CLINGER. In the testimony given by the GAO earlier, they noted a couple of things that I wanted to ask you to respond to. They visited, I think, 15 different centers during the course of their work, and they indicate that the centers visited generally used from three to five shifts a day rather than the eight assumed by headquarters. I gather that when you established the standards for the centers, it was based on the eight shifts. Is that being remedied in what you are doing now?

Mr. OWENS. It is being and has been remedied in some locations, some facilities. It is an educational process, and I have to admit up front that eight shifts for all facilities is not practical. I mean, there are some that that is not going to work because of the way that traffic flows throughout that facility.

Mr. CLINGER. But then in determining your standards you should reflect that.

Mr. OWENS. We make the adjustments. That's right. That's exactly right. But that part of this review process or revalidation, I think, of the staffing standard will really focus in on that part of it. We are, though, encouraging multiple shifts, and again that's a people kind of an adjustment that needs to be made, and sometimes they're the most difficult to make as people are hesitant to change the way they do business.

Mr. CLINGER. There seems to be kind of a chaos in terms of how the various facilities are applying the standards. Again, I am referring to the testimony by GAO here that only one of the 15 facilities they visited was using a portion of the current FAA standard to estimate its staffing needs. The other 14 used different methods, and to quote the GAO,

> Furthermore, 10 facilities use a method other than the regional offices used to estimate staffing, and in only one of the four regions that we visited did both the region and the facility manager use the same method to estimate their staffing requirement. The method they used, however, was FAA's prestrike staffing standard.

Don't you have a responsibility to try to establish some kind of uniformity in the way the standards are being applied?

Mr. OWENS. That is certainly an indicator that we need to do some work in that area as far as educating and so forth.

Mr. CLINGER. Right. And just monitoring what's going on out there and how these things are being done.

Mr. OWENS. And we intend to do that.

Mr. CLINGER. Thank you, Mr. Chairman.

Mr. OBERSTAR. I thank the gentleman.

The gentleman from New York, who has waited patiently.

Mr. MOLINARI. Thank you, Mr. Chairman. I just have a few questions.

Mr. Skaggs earlier asked you a question about the failure rates at the academy. Mr. Owens, you indicated that the reason for the high failure rates was the fact that you wanted to stop those from getting out who would wash out in the facilities, leading to such a high failure rate. If that is the case, it's my understanding that at the en route centers the academy graduates experience a failure rate of about 35 percent, indicating that the screening process that should be taking place at the academy really is not weeding out those unable to handle the job.

Isn't that a fair statement, at least to the extent of that 35 percent.

Mr. **Owens**. The 35 percent may be a little bit high, but I won't argue that point. Those who did wash out at the academy, though, that 40 percent, we believe they would have washed out in the facilities also.

Mr. **Molinari**. Oh, I understand that. I understand that.

Mr. **Owens**. So that part is out of it. So if you are asking whether or not we are stringent enough in the criteria to get through the academy, that may be a fair question that needs to be assessed as far as the capability of the individual that leaves the academy and goes into the facility. Again, one of the things that we will be looking at as far as our review of training is concerned is to assess the need for centralized or onsite training. Remember that the academy is not really a training—an air traffic control training facility. It really is a screening facility. It is exactly what you were talking about, Congressman.

So, one of the things that we're going to look at—and I believe, in fact, is needed—is to have an element of training that in fact prepares this individual that is going to New York center with some of the basic necessities to do the job and to do it in a centralized fashion.

Mr. **Molinari**. Great. But let's talk about that for a moment, the issue of training. Turning to page 5, Mr. McArtor said, "We must streamline the recruitment, hiring, and training of controllers. It takes much too long to identify good controller candidates and then hire and train them."

Now, I just talked to a controller from Chicago center and asked him how many FPL's you have at Chicago center, and he stated there are somewhere around 118. You have close to 400 controllers altogether at Chicago center. How in good conscience do you expect to have training accomplished when you have so low a ratio of FPL's at a center that is so busy? And I suspect that that is one of your major problems in trying to get people to reach FPL status: You don't have enough experienced controllers today at the en route centers to be able to conduct on-the-job training, to be able to permit them to advance fast enough.

Now, I would like your response to that.

Mr. **Owens**. You are in an area where we obviously have a basic difference of opinion as far as FPL is concerned, and it gets back to this person who is checked out or certified on two positions rather than the seven positions. He works those positions as an FPL. So, the capability of that facility is in good hands as far as people sitting down working airplanes.

Mr. **Molinari**. Well, how about the ratio? Is it a reasonable ratio?

Mr. **Owens**. No, of course it isn't.

Mr. **Molinari**. OK.

Mr. **Owens**. Of course it isn't.

Mr. **Molinari**. OK.

Mr. **Owens**. We would—what we think——

Mr. Molinari. Do you have any idea of what a good and proper ratio would be?

Mr. Owens. I do.

Mr. Molinari. I am sorry for interrupting you. I would love to have your answer.

Mr. Owens. I think it is in the area of around 80 percent FPL. That is what we would strive to be at.

Mr. Molinari. What is your average at the en route centers today?

Mr. Owens. The average is somewhere, at individual facilities, probably runs around 65 percent.

Mr. Oberstar. Does that take into account ATA's or not?

Mr. Owens. Not when you're looking at FPL's.

Mr. Oberstar. OK.

Mr. Molinari. You are saying that the average for the en route centers for controllers at any level, that 65 percent of them would be FPL's? That comes as a surprise to me. I have looked at some facilities, and they are much, much below that, and I don't know how we would ever have the others to be so high to bring the average up to 65 percent.

But I would ask you, rather than belabor the point, to submit to the committee, with a copy to my office, the numbers at each of the en route facilities for FPL's as opposed to the total number.

[The information requested by Mr. Molinari follows:]

AS OF NOV. 30, 1987 DOMESTIC EN ROUTE CENTERS

Centers	FPL [1]	Total CWF	Percentage of FPL to total CWF
Kansas City	219	361	61
Washington	236	412	57
New York	186	332	56
Chicago	152	450	34
indianapolis	158	318	50
Minneapolis	169	300	56
Cleveland	257	458	56
Boston	130	338	38
Denver	200	334	60
Salt Lake	128	211	61
Seattle	135	233	58
Jacksonville	219	345	63
Miami	153	267	57
Memphis	189	324	58
Atlanta	306	460	67
Albuquerque	186	283	66
Fort Worth	251	361	70
Houston	217	339	64
Los Angeles	165	329	50
Oakland	146	323	45
Total	3,802	6,778	56

[1] FPL includes traffic management coordinators.

Mr. Owens. Right. Because I am making a mental reference.

Mr. Molinari. I understand.

Mr. Owens. And quite frankly, it's based on the fact—and you remember, of course, last year when we had the 60 percent FPL level, and I believe there were three air route traffic control centers that fell below that—four, with Anchorage.

Mr. MINETA. Would the gentleman yield?

Mr. MOLINARI. I would be glad to yield to my colleague.

Mr. MINETA. I think maybe what you are doing is, under the new math that is being used by the FAA, you may be including the first-line supervisors in that figure. That may be why the distortion between his figure and yours.

Mr. OWENS. No, I wasn't.

Mr. MINETA. Usually, I have been using the figure 64 percent FPL of the work force. It was 82 percent——

Mr. OWENS. Right.

Mr. MINETA [continuing]. On August 3 of 1981.

Mr. OWENS. Right. And I think that's where we're at. But let us get you the accurate numbers.

Mr. MINETA. OK, 29.5 if it's 118 out of 400.

Mr. OWENS. But remember Chicago Center is an anomaly, quite frankly, because there is a bit of a distortion on the FPL rank. The reason being that when we went into training for the high-low concept at Chicago Center theoretically we took a tremendous number of FPL's and made them non-FPL's overnight because we changed their area of specialization. That is the kind of an example of the distortion when we talk about numbers.

Now, obviously, those folks are not—are FPL's. I mean, if you knocked off the high-low today, then tomorrow they would be FPL's again. I mean, it's that kind of a thing that we're talking about.

Mr. MOLINARI. Yes. That's a good point.

Mr. OWENS. So it's really just——

Mr. MOLINARI. I understand that. I think you make a point there. But I have been, for example, at New York center on a visit, and I remember a gentleman and a woman, one was there 36 months and the other was there 42 months, waiting to go back to Oklahoma City to take radar training. And they couldn't be released because they just didn't have the numbers.

I sat in on an all-hands session—the regional administrator and everybody else was there hearing the same thing I did—they didn't have the ability because they needed them too badly to send them back. So therefore, they weren't advancing to their grade and the FPL status that they justly were entitled to.

So, when you see this firsthand at the centers, and then when we talk the numbers game across the table like this, it doesn't seem to match.

Go ahead, please.

Mr. OWENS. I won't deny that that happened, you know.

Mr. MOLINARI. Well, it does happen.

Mr. OWENS. Those were—hopefully, that's not happening anymore.

Mr. MOLINARI. At New York center, probably not. They have taken airspace and given some to Washington center and taken some more airspace and given it to Boston center. If they give enough of that airspace away, things are going to be just dandy at New York center, believe me. [Laughter.]

A question on the East Coast Plan, the expansion of your TCA space. At Norfolk tower the old altitude was 10,000 feet. It has now been increased to 23,000. What I am being told is that the increase in the controllable airspace has created a problem for the controllers. At first they were not able to pick up the traffic at the higher ranges approaching 23,000 feet, and then what they did was adjust the radar to be able to do that, and they started missing some of the aircraft at lower altitudes.

So, I have a twofold question: No. 1, is that being looked at as a recognizable problem? And number two, altogether you have nine new TCA areas expanded in the country; have we added adequate numbers of controllers to be able to handle the greater burden at those centers?

Mr. OWENS. OK. First of all, we haven't expanded those TCA's yet. But in answer to your question, whatever the requirement for resources, people are required, we are going to ensure that they are introduced into the system and go to those facilities.

Mr. MOLINARI. Are you suggesting that wherever resources are required today in the system, that they are made available?

Mr. OWENS. Well, what I am saying is that, like with Los Angeles, when we went through the emergency action, obviously there was no way to get additional people into the facility and go through a training program with them. So, the trade-off to that is twofold: One is to work overtime to cover that shortfall, or not to provide certain services. In Los Angeles, both those things in fact did occur.

There is a recognition that there is additional work load when you do that. I am not, quite frankly, familiar with the Norfolk situation and will take a look at that and see exactly what the situation is and get back to you with exactly what we find out.

Mr. MOLINARI. May I just close by suggesting to you gentlemen that I have looked at this problem and, like Mr. Mineta and Mr. Oberstar, we are deeply concerned about the real numbers that are required to make this a safe and efficient service. I am one who has become totally convinced that six years now you've been working with new programs, new recruiting programs, and every time we have a hearing we hear of new initiatives, and yet we are always far short of the goal.

And with the projected retirements, I suggest to you gentlemen that you better start giving serious thought to taking back a limited number of those who were fired back in 1981. I think it is something that is necessary. I don't see how we are going to avoid it. And it's one way, one real way, that we can bring some strength into the system at a time when it is desperately needed.

I would certainly be happy to hear any comments you have on that. I know what the party line is, so you don't have to give me that. [Laughter.]

Mr. OBERSTAR. Don't repeat the party line. Right. We know what that is.

[Pause.]

Mr. OBERSTAR. You have no response.

I thank the gentleman for those very incisive observations and comments.

But coming back to Mr. Molinari's questions and your response about the percentage or ratio of FPL's to total controllers, total numbers of controllers at various facilities, it is difficult to have any confidence in the statistics that you recite when the standard upon which your numbers are based is subject to question, when it is in fact, by your own admission, not reflective of reality in the field.

So, whether you have 60 percent or 80 percent, is that 60 percent of a real number? Is that 80 percent of a real number? We don't know. That is the purpose of this inquiry, to get at the basis on which you are making those decisions, and it is clear that the agency does not have a very solid basis for making those decisions.

If I could summarize the principal points of the GAO inquiry—I may be greatly reducing that testimony that was given earlier—first, FAA understates operational staffing requirements because of their assumptions about how shifts are determined, because of the traffic day they use to measure staffing needs, use of combined sector data, and assumption that overhead staff would control traffic 10 percent of the time.

That is the first observation.

The second is that there is no feedback or revalidation mechanism in FAA to assure staffing levels are appropriate. There has been no update or follow-up to the existing method of revalidation of staffing standards.

Third, that the FAA consistently underestimates its pipeline requirements.

Fourth, that the process is top-down, without adequate feedback from the bottom up except in providing traffic counts.

That the approach to staffing standards is reactive because of time lags in the forecasts of aviation traffic and on your own budget and staffing process.

Fifth is, overhead staffing does not adequately reflect the different operational needs among the various facilities.

That understated controller requirements and reduced overhead staffing have limited the ability of facility managers to have the operational flexibility that they need.

Those are the principal critiques that emerge, as I have summarized them, from GAO's testimony.

I gave you a full plate right there. You heard the testimony earlier. That was the purpose of having the General Accounting Office testify first, so that you could hear what they have to say and respond to it.

I have telescoped, I think, their testimony—perhaps unfairly—but I would like you to respond. And we will provide from the transcript that summary I have given, and perhaps some additional items, and let you respond at more length.

Mr. GOLDMAN. I would appreciate that. But I want to begin by sort of thanking GAO because they did share a lot of their thoughts with us before this hearing.

Mr. OBERSTAR. Yes. You were not blindsided.

Mr. GOLDMAN. No, sir.

Mr. OBERSTAR. We made it very clear that we wanted them to consult with FAA every step along the way, and they have done that.

Mr. GOLDMAN. And I think we shared with them some of the thoughts that we had.

The area on the first point that you brought up, concerning the staffing levels, I think applies more to the terminal side of the staffing standard than it does to the en route side.

Mr. OBERSTAR. Correct.

Mr. GOLDMAN. We are in agreement that the terminals' staffing standard is poor and needs to be redone. And we are taking action.

In the area of our communication with the work force on the staffing standard, I think we have recognized that we have not done as good a job as we should have done to let the managers know just what was in the staffing standard and how they can use it. And we are going to take action this year to share better with them.

I guess there is a little bit of disagreement concerning input from the field to Washington and that it's all just top-down, because everything that I can determine, there is a sharing. We do develop numbers. We do feed it back to the regions. They do share it with their facilities. Now, maybe not with every facility. And why none of the 15 that were visited by GAO, why they all consistently said that we don't get to them, I can't address. I don't know.

But there is a sharing of information, and we do then come up with a number, provide it to the region on a regional basis, and then allow the regions to make some deviations depending upon their knowledge of specific items that are going on.

With reference to the other items that you brought up, that I can recall anyway, I think we are basically in agreement with what GAO has found, and we are proceeding down the road to correct those.

Mr. OBERSTAR. Well, you observe that FAA is taking action.

Mr. GOLDMAN. Yes, sir.

Mr. OBERSTAR. Proceeding down the road to correct those problems. How? In what way? What steps are being taken?

Mr. GOLDMAN. The terminal staffing standard, for example, we will have a contractor onboard in January. They will have 14 months to finalize the revised standard for the TRACON, for the IFR part of the tower terminal. And then a year after that to provide a new standard for the tower cab part for terminal facilities. So we are proceeding down that road to upgrade those standards.

We have a work force, a work group with representation from the field now to help assess the numbers that we are using in both the en route—in the en route standard as well as the terminals. So, we are looking at what is that standard now providing and what is it not.

Mr. MINETA. Mr. Chairman, may I?

Mr. OBERSTAR. Yes, I will yield to the gentleman in a moment. You are going to bring a contractor onboard, an outside entity that will come onboard to, under contract, review the staffing standards?

Mr. GOLDMAN. To review the terminal side.

Mr. OBERSTAR. We have concerns about use of contractors. Is that contractor going to take full note of the extensive work GAO has already undertaken?

Mr. Goldman. It certainly will. And when I say a contractor, the contractor provides what I will call the technical staffing standard expertise, number-crunching the concepts. The actual procedures, how we control traffic and so on, the work group will have representation from the air traffic control work group.

Mr. Oberstar. Well, in the past FAA was not happy with the standards that were developed for the centers. I assume this is going to be a competitively bid contract and you can't predict who is going to do it. I don't know how you do that contracting. But if it's the same one that developed the centers standards, my recollection is that FAA was not happy with the results of that work.

Mr. Goldman. No, I don't know where that came from, sir. But the centers' standards, the FAA is pretty happy with it. It always needs to be reviewed—the current one, not the previous one.

Mr. Oberstar. That's it.

Mr. Goldman. But the one that we are now—the 1985 standard that we are now under.

Mr. Oberstar. But the reason you have that standard set today is that you were not happy with the work that was done prior to that. Was the current standard developed by an outside contractor?

Mr. Goldman. We had the support of a contractor.

Mr. Oberstar. With the support of a contractor.

I yield to the gentleman from California.

Mr. Mineta. Thank you, Mr. Chairman.

Was it the same contractor?

Mr. Goldman. As the one that we are planning for the terminal? I don't know.

Mr. Mineta. Yes. I mean, I have looked at 10 years here, and you've got four or five standards. It's like an accordion. You say, "OK, here's the size of the box. Here's the size of the accordion. Now fit the thing in."

You know, again the standard sort of bobs and weaves around. You guys aren't happy with the standard, so you call in another contractor and say, "Hey, study this thing for us," and then we come up with another standard, and in a 10-year period we have had, what, four or five standards?

As I understand it, you don't have an RFP out on this. You've got a sole-source coming in in January. The question then is, are you going to give them the music and say, "OK, guys, play the tune. Here are the dollar constraints we have. Now you go ahead and come up with a report for us"? You know, to me that is not a consultation study. I mean, we could have anyone do that.

That is the thing that bothers me about the path that we are taking. I mean, I look at Martin Marietta on the NAS program, and the Advanced Automation System, and it drives me up the wall.

I mean, we are just having money go out the door on some of these consultation contracts that would just embarrass us and ought to embarrass us. I am a little—you know, it's nice to have consultants, we need them, but I just think we are, especially like this one where it's not even an RFP out there floating around to see who substantively is going to be able to come up and do the job, rather than someone who is going on a sole-source, getting a contract on a sole-source and then, I think, being given some criteria and then say, "Okay, give us a report by such and such a date."

Mr. **Goldman**. Can I back up just a little bit?

Mr. **Mineta**. Absolutely.

Mr. **Goldman**. Since the standard of—the prior to 1980 standard we have gone through three reiterations of the air traffic control standards. After the strike and the firing of the controllers, we went into a very basic type of standard which is essentially so many controllers per position. And we went through two reiterations of that.

Then as we came out from under, I will call it, the strike, we developed and moved out on the standard that we are now using with the air traffic control centers, which is based upon the 90th percentile calculations, time-and-motion studies, that we feel are the right way to do it when you're trying to develop a standard.

We believe that the expertise that provided that input for the centers is beneficial to use in developing the terminal standard because again we feel that the en route standard as it is now documented is proper. I know that we are not in full agreement with GAO. We do believe that, and we believe it's important to share that expertise in developing the terminal standard.

The effort that we're going from a contract standpoint, I would like to come back and let you know just what our method of procurement is. I don't know whether it's sole-source or whether it's through 8(A) type organization. I would like to provide that to you, Mr. Chairman.

Mr. **Oberstar**. Please do. We would like to have that information. And does this contractor consist of former FAA employees?

Mr. **Goldman**. Not that I know of, no, sir. These are not air traffic controllers. These are technicians in staffing standards in all kinds of different things, not just air traffic controllers.

Mr. **Oberstar**. So you may be getting somewhat of an objective study.

Mr. **Goldman**. That to me is one of the reasons for using a contractor. It does provide—this type of contractor—provides some objectivity.

[Information supplied by Mr. Goldman follows:]

We expect an 8(A)-type contract for the air traffic control terminal staffing standards to be awarded to Standard Technology, Incorporated, a small firm which provides engineering and technical support services. Approximately half of their 40 employees are industrial engineers. They do not employ any former FAA employees.

Mr. **Oberstar**. I raise the question, frankly, because I have a concern from other contracts that have been let to associations consisting of former air traffic controllers and your just kind of rehashing old thought processes. If you're going outside of the agency, please go outside of the agency to someone who is going to come in and give a fresh look at your problems from a different viewpoint, but someone who will have an open and receptive mind to the very professional critique already done by the GAO, which didn't cost FAA anything.

No further questions for the panel. We thank you for remaining. We will—the Chair will discuss—with the administrator the very real concerns and the indignation, to put it mildly, over his departure.

Mr. **Goldman**. I will share the concern of you and the committee with him. I would have to believe that his reasons were more than just the luncheon affair that you referenced. He will be back with you, I am sure.

Mr. **Oberstar**. I will discuss that with him, one on one.

I would like to take perhaps a half-hour break and resume with the GAO and get their reflections on what has been discussed thus far.

Mr. **Goldman**. Do you want us to be here?

Mr. **Oberstar**. No, no, we do not anticipate calling you back for further questions today.

Mr. **Goldman**. Thank you, Mr. Chairman.

Mr. **Oberstar**. Thank you.

[Whereupon, at 1:59 p.m., the subcommitttee was recessed, to reconvene at 3 p.m., the same day.]

AFTERNOON SESSION

Mr. **Oberstar**. The subcommittee will come to order. We will resume our sitting. Our apologies to the GAO witnesses for this longer delay than anticipated due the floor action just preceding.

The witnesses on behalf of FAA seemed to be unfamiliar with the contract FAA is about to let to rewrite their terminal standards. I believe from our previous conversations that GAO has monitored very closely this contracting process, and we would like to ask you to shed some light on that matter for us.

There was a contract entity, whose name I thought I had at one point—Technology Associates, Inc. I thought that that group had split and a splinter group has set up on their own and they are the ones likely to be given the sole-source contract. I would like for you to address that subject and share with the committee what you know about the contracting process on staffing standards.

Mr. **Mead**. Mary.

Ms. **Cheston**. Essentially, the way that you have captured it is correct.

Mr. **Oberstar**. Pull the microphone up closer, please.

Ms. **Cheston**. The principals that were involved in the development of the center standard for Technology Applications, Inc. have now formed a separate small business that is going to receive the contract to do the terminal staffing standard.

This same firm has contracts, task order-type contracts, for other staffing standards within FAA also. So it is essentially not an RFP process; it is a sole-source task order type of contract award.

The way that it was described to me by the FAA procurement people is that it would be an option, a 5-year option contract. And we have only reviewed the statement of work for essentially the first 2 years of that contract to revise the terminal staffing standard.

Mr. **Oberstar**. Is this a group that is experienced in analysis of Government agency operations and staffing of Federal Government agency functions?

Ms. **Cheston**. I don't really know if their background in the area of staffing standards extends beyond FAA. What they are is essentially a group of industrial engineers and other sorts of quantitative analysts who have developed methods for counting or calculating motions, time and motion-type study work of various work forces.

Mr. OBERSTAR. So, they are not necessarily expert in FAA activities and not necessarily former FAA personnel?

Ms. CHESTON. That's correct. To the best of our knowledge, they are not.

Mr. OBERSTAR. They are not former FAA personnel.

Have you reviewed previous work performed by this contractor, and has GAO an opinion on the quality of that work?

Mr. MEAD. We have seen, of course, the center standard, and we are living under that standard now. Today in our testimony we tried to highlight some of the factors that we viewed as shortfalls, and while that might be something that you would commonly encounter in a standard, that type of problem, the concern we have is that those types of problems be straightened out before they are carried over into the terminal standard area.

That was why we were suggesting that before you get involved in redoing the terminal standard and modeling after the center standard, that you revalidate the center standard and see if it still reflects conditions in the work place. We know, of course, on some counts that it does not.

Mr. OBERSTAR. Ms. Cheston.

Ms. CHESTON. In terms of the standard itself that was developed by the contractor, I think that FAA has amended the new statement of work in ways to provide them perhaps with better documentation.

One of the major weaknesses with the center standard is that there is not a lot of supporting documentation, rationale, common-English explanations that will allow them to go out and explain how that standard functions in simple terms to facility managers.

They have also added in the statement of work a requirement that there be an IBM PC-compatible, "simple version" of the standard developed when the terminal standard is done. That is something that does not exist for the center standard. The center standard can only be applied by headquarters on a mainframe computer.

Mr. OBERSTAR. Will the FAA simply stand pat with current staffing standards while this study is underway, or will they make adjustments as they go along to reflect what they admitted today to be inadequacies in the staffing of the various facilities?

Mr. MEAD. I don't know the answer to that. I notice that Mr. McArtor spoke in terms of incorporating into the standard things such as the 90th percentile day. This has not been done yet.

Mr. OBERSTAR. Well, my understanding of the center standard and of the current terminal standard is that allowances for such items as annual leave benefits are higher in the in-house-developed standard, certainly for terminals and I think possibly also for centers, but if the staffing numbers for terminals are set at an average working for the 187th day level rather than at the peak day, there are going to be some serious consequences for the ability of terminals to handle traffic loads. Am I not right?

Mr. MEAD. Yes, sir.

Mr. OBERSTAR. How far along is FAA in making the adjustments that are needed to their current staffing standard, apart from this contracting effort? What are they doing in-house to react to the disparities among facilities, the disparities that have been outlined in your testimony?

Mr. **Mead**. In today's testimony, Mr. Chairman, we heard a recognition from the administrator of FAA of some problems with the center standard. But to the best of our knowledge, there have been no changes made to date to the standard itself. It really hasn't gone beyond a recognition that there is a problem—for example, with the training pipeline; for example, with the eight shifts; for example, with the 90th percentile day.

We are going to be monitoring that very closely in the coming months.

Mr. **Oberstar**. In your review of staffing standards, did your team look at any facility or facilities that the FAA designated as ideal, those that are functioning at the ideal staffing level with the least number of problems, those that are their flag-ship operations, they are most proud of? And if so, can you give us your evaluation?

Ms. **Cheston**. I believe that, yes, Mr. McArtor referred to one facility that we did visit. Mr. McCauley can speak to it.

Mr. **McCauley**. You are referring to the Minneapolis center?

Mr. **Oberstar**. Yes.

Mr. **McCauley**. Minneapolis center was one of the facilities selected for us to visit. And we did so because the selection criteria was that we wanted to pick a number of facilities which were staffed at the staffing standard, at 100 percent of the staffing standard. Minneapolis center was staffed at that level.

We spoke to the facility manager and other management types at the facility, and they expressed to us the opinion that they were satisfied with the staffing standard numbers. In fact, they said that the staffing standard generated too many staff for their particular facility. Of all of the facilities we visited, this was the only instance where that occurred.

What the Great Lakes regional office did in response to that was staff the Minneapolis center at a number that the facility believed they needed and take the additional numbers which the Minneapolis center said they did not need, and apply that to other facilities within the region.

Mr. **Oberstar**. That center is also one in which there is a very high degree of controller morale and a center which had almost 100 percent walkout in the 1981 strike and, therefore, consists of a totally rebuilt work force.

Mr. **McCauley**. Yes, that's true.

Mr. **Oberstar**. Do you have any cause to disagree with that assessment? Do they have too many staff for their needs?

Mr. **McCauley**. We, as I mentioned in response to an earlier question, in addition to interviewing facility management types, we also had the opportunity to interview operational controllers as well as first-line supervisors and traffic management coordinators. There the opinion varied depending on the individual as to what they perceived as their staffing situation.

Now, we have to keep in mind that in interviewing controllers and supervisors and whatnot, when asking about the staffing situation, their responses are geared to the onboard numbers as opposed to the staffing standard numbers. You mention staffing standards to a controller and he's going to give you a blank stare.

As far as the onboard numbers go at the Minneapolis center, which I mentioned was 100 percent of the staffing standard—so in this instance you can equate the two—some of the controllers we interviewed thought that their staffing situation was fine, they were okay where they were at, and others thought the situation was not so good.

However, something related to that came across in the interviews, and that was a concern with the training program at Minneapolis center, and something we referred to earlier in the hearing, the moving along of developmentals a little too soon, checking them out too fast.

Mr. **Oberstar**. That latter point, moving developmentals along too fast, I have great concern about the time frame cited by the FAA witnesses just before our break about the time within which a person can achieve FPL status and the time within which a person can be checked out at a particular position.

It seemed to me a much shorter time frame than in the past, even given FAA's assertion that they are attracting to the controller force a higher quality of personnel than they did in the past—using their words, not mine. They said they are getting people with a greater degree of education, higher degree of motivation, better skills and better screening, therefore they can train them in less time.

What is your assessment of that evaluation?

Mr. **Mead**. I would share your concern. The reason why is that the entire system over the last three or four years has been in a situation of great stress, and in my own mind, before I would reach a conclusion that everything is going just fine on the training and the acceleration of the training pace is nothing to be concerned about, I would want to have a more stable, detached, less frenzied environment in which to look at that. And we don't have that now. The system is under enormous pressure to get people developed, out there on the line, operating those positions in the FPL status.

I was just looking at the numbers between fiscal year 1986 and fiscal year 1987 for the FPL's systemwide, and my figures are showing a movement of 9,500 out to about 9,800. And that doesn't seem like an enormous increase, and you can tell just from the tone of the hearing today the pressure that FAA is under.

Before I would assess the training issue, I would want to have a little more stable environment.

Mr. **Oberstar**. Very clearly, they are under stress, and that was evident in the discussion that we had.

The Chair will withhold further questions at this time and recognize the gentlewoman from Maryland.

Mr. **McCauley**. Mr. Chairman, if I may.

Mr. **Oberstar**. Oh, yes.

Mr. **McCauley**. I would like to add something or try to clarify something, a statement that was made earlier today by Mr. McArtor regarding the field visits that we made to the 15 facilities and the opinion of the facility managers we spoke with as it pertains to their staffing situation.

I believe Mr. McArtor's comment was something to the effect that he didn't understand how a facility manager's opinion of their onboard staffing related to the staffing standard or could lead us to some judgments regarding the staffing standard.

What I wanted to make clear was that while we did ask the facility managers how they felt about their onboard staffing, we did also ask them directly—we provided the staffing standard numbers that we got from headquarters to the facility managers—and asked for their reaction to the staffing standard numbers.

In the majority of cases, the response was negative, that the staffing standard numbers were not adequate.

Mr. **Oberstar**. Had Administrator McArtor not left for his cocktail hour luncheon, we would have confronted him with that fact, of which we were aware.

The gentlewoman from Maryland.

Mrs. **Bentley**. We keep hearing about staff at the terminals enduring everything stress. The tower is in stress. Everybody is operating under stress. Do we know when we might have enough controllers on hand and/or the technology on hand that we will not have stressful periods and people aren't going to be operating under such a strain?

Mr. **Mead**. The first thing we need to know is how many controllers does the system require and where do we want to put them.

Mrs. **Bentley**. Do we know that?

Mr. **Mead**. And we don't know the answer to that very fundamental question.

Mrs. **Bentley**. Why?

Mr. **Mead**. Because of the problems with the staffing standards that they currently have that generate the appropriation requests and so forth. And we have to get over that hurdle before we can begin to address the very fundamental question which you are raising.

Mrs. **Bentley**. Would you say that that should be one of the primary, if not the key, goals of this oversight subcommittee, that we should push for an accurate determination within the next six months, minimum—maximum—to get those numbers?

Mr. **Mead**. Clearly, it clearly should be a really high priority. The reason why, quite frankly, is let's look at the position that Congress finds itself in. They get staffing standard numbers that don't even approximate what the agency who uses the controllers will say is its needs. They don't know exactly what their needs are. So, Congress is there making judgments about how many controllers FAA needs. And from our way of thinking, that is the reverse of what it should be, that FAA should present you with "Here is the number of people we need and here is why," and then Congress can deliberate and make the funding decisions and so forth.

Mrs. **Bentley**. Why is the FAA taking this approach? Why haven't they taken the lead and said, "Hey, you know, this is it. This is what we need or you're not going to have safe towers"? [Laughter.]

Mr. **Mead**. I wish FAA were here to answer the question.

Mrs. **Bentley**. All right. You don't know.

Mr. **Mead**. I am really not in a position to say.

Mrs. **Bentley**. That is a question I would like to put to them just like that.

We have a vote.

Mr. **Oberstar**. I think the fair answer to that question is they are defending the status quo and defending their own decisions rather than moving ahead boldly to face up to the problems. And that is the reason we have been holding hearings, to expose that problem and to force this agency to do what it must do, not be locked into, as Mr. Gingrich described it a year ago or so, the military style of leadership that brooks no interference.

Mrs. **Bentley**. And that is what is dangerous.

Mr. **Oberstar**. It certainly is.

The subcommittee will have to take a recess pending this vote.

[Recess.]

Mr. **Oberstar**. The subcommittee will resume its sitting. We are awaiting the arrival of the ranking Republican member, who is on her way back, though I think we can proceed with some questions until Mrs. Bentley arrives.

GAO has reviewed FAA's work on the NAS Plan, and on the Advanced Automation System. Mr. Goldman said FAA would be ready to award the contract for that system in the spring of 1988. Is that consistent with your understanding of the status of the Advanced Automation System contract?

Mr. **Mead**. FAA may be ready to award a contract. They have many times in the past been ready to award a contract and have proceeded to do that. That is much different from saying the AAS is here.

I think AAS is some time away. It is not going to come tomorrow. It's not going to come the year after.

I think it would be wise to look on the schedule of the overall NAS Plan, and what has happened to it over the years. Parts of the NAS Plan are already six and seven years behind schedule from their original estimates, and the cost estimates of the plan have gone from $10 billion to $20 billion. And originally there were productivity estimates in the NAS Plan—I believe there still are—for controller productivity savings and needing less controllers. I guess we would urge a word of caution there that we not assert or argue for any productivity gains until we have them in hand.

I believe that in conversations with you, Mr. Chairman, we talked about the maintenance work force and how assumptions were made there as well about productivity gains stemming from the National Airspace System Plan. FAA acted to cut the work force, citing anticipated productivity gains that did not materialize.

Mr. **Oberstar**. Well, those are our concerns. That number that you cited, a cost increase estimate from $10 billion to $20 million is shocking. It's an enormous overrun.

Mr. **Mead**. FAA's history with the NAS Plan—we don't challenge the NAS Plan; it is needed. Somebody was pointing out earlier that parts of FAA still run on vacuum tubes and FAA may be the world's greatest consumer of vacuum tubes. The NAS Plan is needed. But FAA has a history of significantly underestimating the technical sophistication of things they are undertaking. They have a history of that, and every one—almost every one—of their major

NAS Plan systems, they have underestimated the technologies involved, especially when it comes to software.

Mr. OBERSTAR. Thank you for that assessment. Shocking as it is, it is vitally important for us to know and to understand.

In Mr. McArtor's presentation to the committee—I cited his comment on page 4 of the testimony, "Today's controller job is fundamentally different from before the 1981 strike. We must stop comparing ourselves to that vastly different operational and technological time."

I took issue with his statement—regrettably in his absence. But the staff speaking for FAA attempted to defend the language but ultimately had to concur that by any yardstick of measurement "fundamental" is too strong a word, that the same equipment is in use today as, with a two or maybe three exceptions of centers that may have the host computer system, but essentially the same equipment. The same technology is in place today as in 1981. There are fewer numbers of controllers, but the job of the controller separating traffic is essentially the same as it was then. There may be differences in work load, but not fundamental differences.

I would like your reaction to that excerpt from his statement because I think it goes to the mindset of this agency in dealing with how it staffs its facilities. If their view is that there is a fundamental difference, that peaks and valleys are different today than they were in 1981, that the controller's job is indeed different in its essence than it was in 1981, then they can pat themselves on the back and say, "Yes, we've got a standard for staffing these facilities that meets the needs." But I don't think they do.

Mr. MEAD. Fundamental is too strong a term, particularly on the technology side. The host computer improves the response time for what appears on the radarscope. It just makes the controller's job a little bit easier because he receives information quicker than otherwise he would

But beyond that, from a technology standpoint, I don't know how they would say that it's fundamentally changed. The number of airspace sectors has been reduced, although they're on the way back up now.

Mary, Brian, you have been with this for a number of years.

Mr. MCCAULEY. I would just like to second what Mr. Mead has said, and that is that the choice of the word fundamental is not only wrong, I think it's unfortunate because of the impression that it creates among anyone who reads that word or hears the word, because it gives one the impression that, as you said, the essence of the job has changed. What we are really talking about are procedural changes as opposed to technological changes.

Ms. CHESTON. I think that probably some of those procedural changes which the FAA witnesses alluded to, such as the debriefing requirement and some other changes for flow control, those procedural changes were not in place when the current standards were developed, which is another sort of rationale for why there needs to be a refinement or revalidation of the existing center standard to accommodate those so-called procedural changes in the way that a center would operate.

Mr. OBERSTAR. How would you accomplish that?

Ms. **Cheston**. At the time that the center standard was originally developed, the contractor suggested that on an annual basis work measurements should be taken at at least three centers a year. FAA has not implemented any sort of maintenance procedures such as that for the center standard. If they were to go to facilities today, they might very well find that because the peaks and valleys have been evened out, as you alluded to, because there is a requirement for controllers to stay on positions, they need either fewer or more people than what their standards currently generate.

Mr. **Mead**. Yes, Mr. Chairman, on that Mr. McArtor pointed out that in his view FAA had revalidated or had validated the standards, if I understood him correctly. There may be some misunderstanding there as to what we mean by validation and what FAA means.

We mean that periodically the standards that you have in place should be checked out to assure that they are accurate and reflective of what you need. Just pulling off some of the items that are not incorporated in the standard: flow control, for example, has not been incorporated into the standard; the eight shifts—or the three shifts, I should say; the East Coast Plan; the ratio of FPL's to developmentals. All those are important points that haven't been taken into account in the standard.

Mr. **Oberstar**. I guess this very glib treatment of revalidation suggests a much more substantive review of standards has taken place with the FAA in the time frame we are addressing, but I don't see anything in FAA activities to justify the statement the administrator made. It is not a revalidation. It's maybe just kind of looking at it from time to time and saying we're going to change a few things—but not a revalidation. That suggests very fundamental review, a look at the total structuring of the work force and the standard itself by which that work force is measured. And they haven't done that.

Let me just give you a broad opening to pick up on any of the points with which you may have disagreed in the FAA testimony, statements that differed from your findings in the review up to this point.

Mr. **Mead**. We don't want to hold ourselves out as experts, the world's experts on staffing standards or what the FAA's ultimate staffing standard should look like. But one point that was made today by the administrator was that he hoped GAO was not urging a return to the pre-1981 standards, if I understood him correctly.

Mr. **Oberstar**. I heard those words exactly, yes.

Mr. **Mead**. There are, we would certainly say, some problems with the prestrike standard. That doesn't mean everything in the prestrike standard was inappropriate.

For one example, one area we would recommend and urge FAA to look closely at is position based staffing, whether there is some value in having the different facilities about the country look at the number of positions that they have in operation, how long they have them in operation on a peak day, and giving that initial information to FAA before we throw out everything that happened prestrike. I'm not endorsing it, just saying we're not convinced it's totally the wrong way to go.

Mr. Oberstar. Any other observations?

Mr. Mead. Now, here is just a list of things that I would focus on if I were looking at a validation of a staffing standard from FAA's standpoint. I will quickly go through them.

One is performance indicators. Operational errors and any correlations there might be between those and staffing. Overtime and correlations between overtime and staffing conditions. Technological advances: for example, there are new flight strip printers out there; how does that factor into a controller's work load? The NAS Plan, as we were talking earlier. The training simulators that Mr. McArtor was advocating that seemed to make some sense, how would that impact on controller work load would it free up more people to run those positions?

Qualifications of staff: developmentals can't cover as many positions as full-performance-level controllers. The training pipeline that we have been over today, projected attrition in retirements. Timelines for training the FPL's: it's not a one-for-one replacement.

New work load additional terminal control areas. New procedures requiring more work: for example, FAA started a new procedure which is a good one, requiring debriefings when you switch or go off your position. But that takes time. That's work.

Field feedback, it's important that the field have formal feedback or input into this process annually when they come up with the numbers. For example, shifts actually worked, three to five versus eight.

Facility-specific growth, special complexities at that facility, overall aviation growth estimates. I understand FAA is working on ways of plugging those into the standard better. Finally, standards for supervisors and traffic management coordinators in dealing as well with the peak day.

That is sort of a summary of where we would disagree.

Mr. Oberstar. Those are very important items on which to have disagreements, and I would certainly agree I have questions about each one of those points.

One that troubled me greatly is the statement by the FAA panel that having higher numbers of FPL's does not assure a greater margin of safety. That was the thrust of what they said, regardless of what the exact words were. But they are trying to maintain that more FPL's at a center doesn't necessarily mean better control of aircraft at a higher level of safety, it just means that you have more people who can work more positions.

That surely has something to do with the level of safety. It has something to do with the stress on your personnel and on the pressure on individual controllers. It has a great deal to do with how much time each controller has to spend at controls. It has a great deal of impact on the training that will be conducted at that particular facility.

The thrust, though, overall of the FAA response suggests to me that they really don't have a very good handle themselves on the yardstick by which they measure staffing.

Ms. Cheston. I would also add, in the area of overstatement on the part of the administrator, the statement that a facility could be run with no FPL's is probably a challenge. I would propose to have him find a facility manager who would want to run an operation with no full performance level controllers.

I think one other area of disagreement that we have with FAA is that the standards, like it or not, generate a requirement for experienced, qualified, full performance level controllers. FAA would like you to believe that the center standard measured operational controllers, people who were qualified on that position.

The problem is the way the standard's formulas interrelate, those people must essentially be interchangeable. So our point in terms of what FAA is saying is that the staffing standard generates a full performance level controller requirement.

Mr. **Mead**. Sure. When you're projecting staff needs, it seems basic to me that an individual who is qualified on one position or two positions can't cover as many positions as someone who is qualified on six or seven, and that is certainly a factor you would take into account when you figure out how many people you are going to need at a facility. And the difference between the FPL, of course, and the developmental is that experience level and being checked out on different positions. That seems to translate pretty directly to us into how many people you need.

Mr. **Oberstar**. It certainly does.

You mentioned a moment ago, and touched earlier in your testimony, on the number of shifts to be worked, three versus eight or some number in between.

For the record, would you describe the distinction involved in the number of shifts and the significance that it may have for air traffic control and its impact on work load and stress for controllers?

Mr. **Mead**. Mary?

Ms. **Cheston**. I don't know really that it has an impact on stress other than if you were working a different shift every day, it might affect you personally.

From an operational standpoint, when you operate on three shifts, you must bring in at the beginning of that shift a full complement of people to match your peak traffic for that 8-hour period. They can reduce those staffing requirements by staggering the number of people they bring in at different intervals. That is why it is to FAA's advantage to get managers to use more shifts and therefore reduce the number of controllers that should be provided to that facility.

Some of the facilities that we visited which were using multiple shifts found that it was not workable for what we would call human relations purposes. Supervisors were not on the same shift schedules as their subordinates. People couldn't get together and communicate. It has presented some different sorts of problems than just working the aircraft. That is one reason why in some facilities they have abandoned it to go back to the three-or-four-shift schedule.

Mr. **Oberstar**. Overall, is a three-or-four-shift schedule better from the standpoint of safety, of adequacy of personnel to work traffic and controller morale than, say, the eight-shift procedure?

Ms. **Cheston**. I would probably ask that you also direct that question to FAA because some of investigations they have done regarding operational errors would seem to indicate that having the continuity of three shifts and not having continual distractions from turnovers of shifts on the work force might be a better way to go in terms of reducing errors. So they may find themselves moving in that direction for an entirely different reason because of that sort of a consequence at some facilities where they have been on more shifts.

Mr. OBERSTAR. So, if they were to operate on a three-shift at most facilities, three- or maybe four-shift basis, and have sufficient numbers of personnel available at the outset of each shift so that you can have relief, you're working toward a more stable and more flexible system?

Ms. CHESTON. That is one approach. I think our point in raising the shift issue is essentially that the staffing standard does not reflect the field operation, and you can choose to change one of two things: make the field operation go to eight shifts, or change the staffing standard to reflect the real world. We have essentially said to FAA, "It's in your ballpark. You decide which of those two you're going to change."

Mr. OBERSTAR. All right. Thank you very much.

The gentlewoman from Maryland.

Mrs. BENTLEY. Thank you. Mr. Chairman, I am glad you brought up the shift issue because I have been puzzled since hearing it first mentioned this morning about eight shifts. Maybe it was explained at some point, but I don't understand it. Will somebody explain to me what eight shifts are?

Ms. CHESTON. Eight shifts would essentially mean that instead of bringing in controllers at 7 a.m., 3 p.m., and 11 p.m., which is a three-shift, you might bring them in at 6, 7, and 8 a.m., and bring in some more at 11, 1 and 2, or you might bring in additional controllers at 5 and 6 to cover until midnight.

It's a different way of staffing, and it requires essentially fewer people because the person you brought in at 10 or 11 in the morning is still there to cover your 5:00 p.m. crunch or rush.

Mrs. BENTLEY. I see.

Ms. CHESTON. So, eight shifts means eight separate starting times.

Mrs. BENTLEY. I see. And what you are finding is that maybe that hasn't been as efficient as they wanted it to be?

Ms. CHESTON. It may have been efficient. It wasn't necessarily effective.

Mrs. BENTLEY. Effective. OK.

Mr. MEAD. You raise an interesting point with your choice of the word efficiency. It's one thing if because of the crunch of the moment you have to go to eight shifts or five shifts, but from a long-term policy standpoint, Congress may well face a decision here: Are you interested in maximizing the savings of dollars in controller staffing, or are we prepared to spend a little extra to have a cushion here? Do we want to make people stretch to the point where we have to do the 8-, 9-, and 10-shift approach?

Mrs. BENTLEY. I see. So, you say that may be a decision for the Congress.

When you were making your list of items, Mr. Mead, the first one was performance indicators, I believe. What was your second one?

Mr. **Mead**. Technological advances that affect the work environment and hence would affect or influence productivity.

Mrs. **Bentley**. OK.

Mr. **Mead**. One example was the Host computer's response time. That makes the controller's job, in a way, more easy. The training simulators, right now they're trained on live scopes.

Mrs. **Bentley**. Have there never been any training simulators put into operation by the FAA?

Mr. **McCauley**. If I could respond to that question, the training program for controllers is really broken down into several different parts, the first part being the screening and basic training that takes place for all controller candidates out at Oklahoma City. Simulated equipment is used in that phase of the training.

Those who successfully complete the academy portion of the training go on to the facilities where they first get some classroom training from training specialists at the facility. And then they are supposed to proceed to, in the higher-level facilities anyway, laboratory training which is in a simulator environment before progressing on to the floor to get their on-the-job training.

What we found back in 1985 during our survey, and what we found again this summer when we made our visits to the 15 facilities was that while the simulator training equipment is there at the facilities to be used, its use is not being maximized, for two reasons:

No. 1 is staffing shortages at some of the facilities both in terms of not enough people, and training specialists to provide the instruction. Even though you're using automated equipment in a simulator environment, you still need an instructor to—how shall we say—program the simulator for the student to use.

In addition, the other staffing shortage has to do with the trainee, him or herself. At some facilities the staffing situation is so severe that these people are needed to work control positions for which they are qualified, which then slows down the training because they can't really get back into the simulator environments to get the training they need to progress to full performance level as quickly as would be desired.

The second factor for the lack of maximum use of the simulator training equipment has to do with computer capacity. The simulator equipment is run off the same computer that handles the live traffic in the air traffic control environment at the facilities. And right now, at some facilities—and host computers should relieve some of this situation—there is just not enough computer capacity to both handle the live traffic and to use the simulator for training.

Mrs. **Bentley**. Because simulators are just so vital today in all kinds of training fields, especially in all kinds of transportation.

Mr. **McCauley**. And if I might add one further point. In our discussions with the operational controllers, supervisors, and traffic management coordinators, during our interviews that we did with them, when training came up—and it came up very often as a concern—the lack of simulator training that they were getting was probably the most noted training concern.

Mr. **Oberstar**. I want to thank the gentlewoman for her patience throughout this day and staying with this very long hearing, but particularly for the wisdom that she brings to the hearing process.

Your long experience in transportation and serving in the Federal Maritime Commission gives you a special perspective that is most useful to this committee.

Mrs. **Bentley**. Thank you.

Mr. **Oberstar**. For our GAO panel I want to say that the work you have done on this particular issue, staffing standards, may well be the finest piece of work that you have contributed to the public understanding of the problems of aviation and of aviation safety and how to correct them.

It is difficult to pick out one area in which GAO has excelled over the years because all of these analyses have been superb and have been practically without fault.

This, I think, gets closest to the heart of the problem of aviation safety and closest to the heart of the problem that FAA finds in correcting the system and making it as safe as it should be, to reestablishing and rebuilding into air traffic control the cushions, the levels of safety that were there previously, those extra added measures of protection that one by one have been sidetracked in the years since the strike, about which GAO has sounded the alarm and which this subcommittee has again sounded the alarm time and again.

I think we have here the core of the problem: to get FAA to deal with it, to be able to get air traffic control staffing back on track.

Mrs. **Bentley**. I would like to join you, Mr. Chairman, in applauding the GAO group for what they have presented, and their studies, too. It is superb.

Mr. **Oberstar**. Finally, a very much needed expression of appreciation to our staff, both majority and minority, for the many long hours devoted to the preparation for this hearing and consultation with GAO and FAA over a period of several months. Splendid piece of work.

The subcommittee stands adjourned.

[Whereupon, at 5:58 p.m., the subcommittee was adjourned.]

[The prepared statements of Messrs. Mead and McArtor, and statement of Hon. Helen Delich Bentley follow:]

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Testimony

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FAA's Air Traffic Controller Staffing Standards

Statement of
Kenneth M. Mead, Associate Director
Resources, Community, and Economic
Development Division

Before the
Subcommittee on Investigations and
Oversight
House Committee on Public Works
and Transportation

GAO/T-RCED-88-8

Mr. Chairman and Members of the Subcommittee,

We appreciate this opportunity to testify on the Federal Aviation Administration's (FAA) staffing standards for the air traffic controller work force. This testimony presents the preliminary results of our work for the Subcommittee. When our review work is completed, we will include the results in a report to the Subcommittee.

Our testimony today focuses on three points. First, staffing standards are critical to the process of determining how many controllers FAA needs. Second, the current standards have not been validated and fall short of accurately reflecting FAA's controller staffing needs, particularly in providing sufficient staff to cover peak traffic periods and establishing an adequate training pipeline. And third, validated staffing standards that accurately reflect needs would provide FAA with an effective management tool and help restore congressional, controller, and facility manager confidence in FAA judgments about its staffing needs. FAA has an opportunity to address these matters now and, in fact, is taking the initial step of reassessing its standard for determining controller staffing needs at airport terminals.

Our findings are based on field work at 15 air traffic facilities and 4 FAA regional offices. We visited a cross-section of airport terminals and air route traffic control centers that were staffed above, below, and at fiscal year 1987 staffing standard levels. At each facility, we talked with facility managers, controllers, and their supervisors and gathered data on work load, staffing requirements, shifts, attrition, and administrative activities. We reviewed FAA's staffing formulas and methodologies as well as the assumptions used in these methodologies. And, finally, we also convened a panel of consultants representing FAA, the airline industry, the military, and other interests to discuss the staffing standards.

IMPORTANCE OF FAA'S STAFFING STANDARDS

Staffing standards are used to forecast the resources needed to accomplish work. They essentially measure the employee hours needed to perform a function and are used to determine the total number of employees needed to do the work. FAA issued an order in 1983 establishing staffing standards as the basic method of "determining, analyzing, and distributing employee resources" for FAA programs. The current standards were developed in 1984-1985, and are the fifth in a series of formal controller staffing standards. FAA first used controller staffing standards in the 1960s, but they have evolved over the years from relatively simple standards to today's more sophisticated computer models. FAA uses its staffing standards in developing appropriation requests to the Congress.

To project requirements for air traffic controllers, FAA headquarters uses two separate standards--one for airport terminals and another for air route traffic control centers. Based on historical aircraft activity, these standards generate expected work load which is expressed in employee hours for both controllers and air traffic assistants.

Once historical controller work load is calculated, adjustments are made to account for aviation growth and anticipated future work load; the work time available per employee taking into account leave, training, and other activities; and reduced staffing coverage for weekends when there is less air traffic. In addition to these adjustments, which are made to both standards, others are made to the center standard for the number of shifts and for time spent by supervisors working air traffic. Finally, FAA headquarters adds to a facility's staffing allocation a number for a training pipeline.

Once all adjustments have been made, a final "staffing standard number" is arrived at for each FAA air traffic facility. Headquarters sends these staffing projections to the regions which in turn provide comments to headquarters on the adequacy of the proposed staffing allocations for its facilities. When an appropriation is passed, final allocations are made to each region, based on these comments, although some regions further adjust headquarters' suggested staffing for specific facilities.

SHORTFALLS IN CURRENT STAFFING STANDARDS

Staffing standards must be continuously maintained and periodically validated for accuracy because they can become outdated within a year of their establishment. Although maintenance and revalidation of staffing standards are FAA requirements, we found that FAA has not established a process to maintain and validate its controller staffing standards. The House Appropriations Committee criticized FAA in 1978 for not validating its staffing standards. If FAA does not maintain its staffing standards, it cannot assure that these standards reflect actual staffing needs.

Our work shows that because of certain assumptions that FAA uses in its current standards, proposed staffing allocations understate actual needs, particularly the assumptions that terminals should not be staffed for peak traffic periods and that centers work eight shifts per day. In addition, the way that FAA estimates its training pipeline needs and forecasts future work load affects the accuracy of the staffing standards.

Key changes to staffing standards

The current staffing standards represent a fundamental change in FAA's controller staffing philosophy since the August 1981 controllers strike. Before the strike, FAA's approach was to provide a staffing cushion to protect against "hard times." With the strike, FAA management decided that staffing before the strike was too high.

In 1982, FAA shifted to providing a staffing level that would cover average system requirements. FAA assumed that overtime would be used to cover traffic peaks, prime annual leave periods, and other special requirements. FAA implemented this policy shift by changing its existing staffing standards for the controller work force. For example, FAA changed the activity day on which terminal staffing is based from the 37th busiest day of the year (90th percentile day) to the 187th busiest day (average day). We believe that this FAA approach provides only the minimum staffing levels needed to meet the requirements of both the air traffic control system and its personnel.

Other calculations also reflect the change in FAA's staffing philosophy and result in the standards not accurately reflecting field conditions. Headquarters, for example, bases its staffing allocations for centers on an assumption that eight shifts will be worked per day. The centers we visited generally used from three to five shifts per day, rather than the eight assumed by headquarters. This means that these facilities would require more staff or overtime to handle peak traffic since they have fewer overlapping shifts. Multiple shifts allow a manager to tailor controller schedules to meet traffic demand. Managers can use fewer people to cover peak demand with flexible shift scheduling.

Training pipeline and aviation forecasts underestimate needs

The purposes of a pipeline are to, first, ensure that trained controllers are available when full performance level--or FPL--controllers leave, and second, provide additional FPL staffing to meet increasing work loads. According to our analysis, however, FAA's staffing standards underestimate its training pipeline needs. FAA's fiscal year 1987 pipeline allowance, of 6 percent for terminals and 9 percent for centers, was significantly lower than needed to compensate for actual attrition. The average FPL attrition at the facilities we visited was 15 percent for terminals and 13 percent for centers, not counting additional losses of developmental controllers during facility training.

This underestimation is a result of FAA using pre-strike attrition rates rather than recent field attrition. The pipeline is not future-oriented because it does not consider potential future attrition from retirements or career progression nor does it take into account the fact that facilities need additional developmental controllers to make up for FPL shortages. FAA recognizes that its pipeline is a problem and plans to reexamine it during its reassessment of the terminal staffing standard.

The accuracy of FAA's aviation forecasts also affects FAA's standards. For example, FAA underestimated fiscal year 1987 aviation activity and had to amend its 1988 budget request to reflect increased staffing needs. The staffing standards process also cannot react quickly to changes in work load--such as an airline's decision to start a new hub or base of operations at an airport.

FAA NEEDS TO ESTABLISH ITS CONTROLLER STAFFING STANDARDS AS A CREDIBLE MANAGEMENT TOOL

FAA's controller staffing standards have not been effective as a management tool and there is little understanding of the staffing standards process outside of FAA headquarters. FAA's actual staffing does not reflect the standards and our discussions with facility managers suggest that the standards do not produce staffing estimates that are accepted as accurate.

We found that the methodologies used in the current standards are not well known or understood in the field--either at the region or facility level. Some center managers we visited, for example, did not understand that the aircraft activity tapes they had submitted to headquarters were being used to generate their staffing. As a result of this limited understanding, regions and facility managers use a variety of methods in responding to headquarters' proposed staffing allocations. For example, only 1 of the 15 facilities we visited was using a portion of the current FAA standard to estimate its staffing needs; the other 14 used different methods. Furthermore, 10 facilities used a method other than their regional offices used to estimate staffing. In only one of the four regions we visited--the Southern Region--did both the region and facility managers use the same method to estimate their staffing requirements. The method they used, however, was FAA's pre-strike staffing standards.

There is a sharp contrast between the views of headquarters and field officials on FAA's controller staffing standards, with headquarters officials describing the staffing levels provided by the standards as "roughly right" while field managers we visited described them as inadequate. According to facility managers at both centers and terminals, they could not operate as they do now if they were limited to the staffing levels resulting from FAA's standards. Although managers believed that they could still handle the air traffic, they predicted other impacts from these lower staffing levels such as eliminating all controller training and denying requests for annual leave.

Recent congressional actions have offset some of the problems created by FAA's controller staffing standards. As shown in the attached appendix, in fiscal year 1987 the Congress authorized staffing for about 1,100 more positions than called for in the staffing standards. And for fiscal year 1988, both the House and the Senate Appropriations Committees are again proposing staffing levels higher than those called for by the staffing standards.

Even the higher staffing levels authorized by the Congress may not be sufficient to meet the field's needs. Four of the 15 facilities we visited were selected because they were staffed above the standard. According to three of these facility managers, additional resources are still needed because FPL controller staffing is below optimum; overtime expenditures continue at high levels; and new work load has not been factored into existing authorizations. Because of increased overtime at terminals, FAA experienced a nationwide increase in overtime expenditures in fiscal year 1987 as compared to fiscal year 1986. However, we believe that FAA would have experienced more serious impacts from reduced controller staffing levels if the Congress had not authorized more staffing than FAA requested. These impacts would include an even greater increase in overtime, reduced levels of service, increased flight delays, and deterioration in controller morale.

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In summary, we believe that staffing standards are critical for estimating controller staffing needs. FAA needs estimates which managers and controllers agree are reasonably accurate reflections of actual staffing needs. Reliable standards would greatly assist the Congress in determining the appropriate levels of funding and standards of performance for FAA to achieve. Accomplishing this, however, will require standards that meet FAA's stated objectives of being high quality, current, and accurate.

While we are still in the process of formulating our specific recommendations for our forthcoming report, it is clear to us that FAA must improve its standard setting process. We believe that FAA needs to do three things to put itself back in the position where the Congress can rely on its judgments about controller staffing needs. First, FAA needs to revise its standards to better reflect the staffing levels managers need to operate their facilities. Second, FAA needs to inform the field more effectively about its staffing process as well as incorporate field needs and perspectives into that process. This approach would enhance the standards' acceptability and use in the field as well as help ensure that their projections are up-to-date and reflect actual field conditions. Third, FAA needs to develop a formal validation process, to ensure that its standards are accurate and current, and a formal feedback process, to ensure adequate staffing for each facility and its level of activity. FAA has taken several initial steps towards improving its standards by reassessing the terminal staffing standard and procedures for calculating controller pipeline needs.

Mr. Chairman, this concludes our prepared statement. I will be pleased to answer any questions you may have at this time.

Table 1: Controller Work Force Staffing Levels

	FY 1987	FY 1988
Authorized positions	15,225	15,900 (House) 15,800 (Senate)[a]
On-board (9/30/87)	15,433	
Staffing standards	14,146	14,657

[a] Note that the Senate mark is based on a different mix in the controller work force than the mix presented by the staffing standards--namely, controllers, first-line supervisors, and traffic management coordinators rather than FAA's controllers, air traffic assistants, and training pipeline.

STATEMENT OF THE HONORABLE T. ALLAN MCARTOR, FEDERAL AVIATION ADMINISTRATION, BEFORE THE HOUSE COMMITTEE ON PUBLIC WORKS AND TRANSPORTATION, SUBCOMMITTEE ON INVESTIGATIONS AND OPERATIONS CONCERNING AIR TRAFFIC CONTROL STAFFING STANDARDS. NOVEMBER 18, 1987.

Mr. Chairman and Members of the Subcommittee:

I welcome the opportunity to discuss the status of our air traffic control system and the staffing standards related to our controller workforce. Before I begin, however, I believe all of us--Congress and FAA--must take a more comprehensive and critical look at the people, equipment, and procedures which constitute our air traffic control system.

It is that larger view, the managerial contest in which we develop staffing standards, which I would like to briefly speak to this morning. Brooks Goldman, FAA's Associate Administrator for Administration, will follow my testimony with specific information regarding air traffic staffing standards.

I've been on the job nearly four months now. Immediately after taking the oath of office I confirmed that FAA is an intensely operational agency that does a remarkable job under enormous pressures. My objective during the initial months was to reassess how well FAA was meeting its challenge. Were we, for example, "modern" in our thinking about air traffic control? Did we have enough controllers to get out ahead of the rapid growth in air commerce? Were we using the latest training technologies and methods to bring our controller workforce up to full performance levels? How can we better recruit and retain controllers? And did our staffing standards reflect today's work environment and anticipate tomorrow's traffic needs?

Mr. Chairman, these are the kinds of questions all of us must ask. Make no mistake, FAA wants to be held accountable to Congress, to industry, and to the American people. That's part of my program to recapture public confidence in aviation. But I also want us to jointly agree on the types of measures FAA should be accountable for. While it is true that we can't manage what we can't measure, we certainly shouldn't base our management on measures which may have little bearing on safely operating the Nation's airspace.

America's air traffic control system is the best in the world. And the system is safe. This past summer, despite doomsday calls and much publicized fear that our skies were unsafe, FAA's air traffic personnel safely handled a record volume of traffic with reduced delays nationwide from the prior summer. Delays were down 24% in September from last year and 45% in October.

But statistics don't tell the entire story. I believe we need new measures to gauge how well we manage air traffic and how safe the system truly is. Near mid-air collision reports, operational errors, pilot deviations, full performance levels and controller workforce numbers--all useful indices--are not, in and of themselves, adequate measures of safety or management effectiveness. For safety, in my view, is better evaluated as overall exposure to risk rather than absence of accidents. And it is exposure to risk that guides my management decisions every day.

My program of accelerated change for fiscal year 1988 is designed to build stronger margins of safety in our air traffic control system. While the system is safe, I am concerned about the margins of safety, and we can only preserve them by simultaneously improving the equipment, people, and procedures in our Nation's airspace.

Mr. Chairman, FPL's, while important indicators of controller proficiency, may not predict how well the workforce manages traffic this afternoon at O'Hare airport or Boston Center. Our staffing standards may anticipate traffic workloads but fail to build in sufficient time for the full demands we place on our controllers. We agree with GAO that our standards should account for special projects such as operational error reviews, employee participation groups or training. Today's controller job is fundamentally different from before the 1981 strike. We must stop comparing ourselves to that vastly different operational and technological time. Likewise, we should end the heroic attitude the post-1981 strike generated: stop thinking we can do more with less, admit that airspace management means more than separating aircraft, and plan for more non-traffic-related controller work.

I have the commitment of Deputy Secretary Jim Burnley to seek these additional resources to help bolster our controller workforce to meet today's air traffic management challenges. Mr. Chairman, you have my pledge not to hide behind the numbers--but rather bring forward the issues and problems of operating the Nation's air traffic control system in a period of unprecedented growth and demand.

But, as I stated earlier, debates on numbers of controllers and FPL's have occupied too much attention and masked the magnitude of the real problems we face.

I need the flexibility to deploy controller resources at critical facilities when problems arise and dynamically respond to changes in air traffic flow nationwide. We must streamline the recruitment, hiring, and training of controllers. It takes much too long to identify good controller candidates and then hire and train them. Advanced simulation techniques are available which can greatly reduce the time needed to bring controllers to full performance levels, lessening the drain of on-the-job training in our facilities. As part of my Impact '88 program, I am conducting a state-of-the-field review of FAA's approach to controller training and plan major revisions in the process this fiscal year.

I'm also concerned about FAA's ability to retain good controllers. Human factors are as critical in the tower cab as they are in the cockpit. Accordingly, I've initiated an Administrator's focus group program to meet directly with employees. We just finished our first one with controllers and, based on their suggestions, have already altered some of our air traffic control procedures to better manage the airspace.

In looking at our staffing standards, we must account for these additional factors affecting our traffic management. There is a vital element of skill progression within our air traffic control system, and lower level facilities provide experience and career growth to many controllers. Staffing standards must factor in this kind of special involvement, and we are doing so.

We are also developing staffing standards for supervisory and traffic management coordinators. We are in the process of redefining the controller workforce as recommended by the recent GAO report which was initiated at your request. The new definition will more clearly define the personnel who have direct responsibilities for air traffic control. Supervisors and traffic management coordinators will be included in the new definition, and development of staffing standards for these groups will result in comprehensive coverage of the workforce.

And finally, Mr. Chairman, we cannot ignore equipment needs in our ATC system. With growth in controller numbers, comes a pressing need for more controller scopes and consoles. Through our Impact '88 program, we are committed to accelerating our procurement of new technologies and refurbishing older ones.

When I say new technologies, I'm referring to wholly new ways of controlling air traffic. Technology exists today to provide--through satellite and ground based data-links--simultaneous information to pilots for air traffic control. These new technologies will revolutionize FAA's approach to air traffic control and the related staffing standards to manage the system. Through our Impact '88 program, FAA has renewed and broadened its commitment to new ATC technologies.

Mr. Chairman, we are taking a serious look at how we manage our air traffic control resources. Today's intense scrutiny on civil aviation offers unique opportunities to work together to build a stronger air traffic control system so that we can safely handle sustained growth in the future. In building better staffing standards, we also have an opportunity to finally close the book on the 1981 controller strike and look forward, with great promise, to the modern ATC system of the 1990's.

I welcome any questions you may have. Thank you.

Rep. Helen Delich Bentley's
Statement before the
Subcommittee on Investigations and Oversight
November 18, 1987

Chairman Oberstar and Ranking Minority Member, Mr. Clinger, I commend both of you for conducting this subcommittee hearing to review an important subject for all who travel by air. Review of air traffic control standards is an important step in addressing air traffic control problems that exist today.

I look forward to receiving the testimony from FAA Administrator, Allan McArtor. Mr. McArtor has the primary responsibility of directing the FAA in regard to air safety and regulation of our nation's air traffic controllers. Air traffic controllers play a major role in directing flight patterns and scheduling of all airlines.

It is imperative that our air traffic controllers meet minimum FAA standards in safety requirements, recruitment and certification. Long airline delays and near mid-air collisions continue to present a problem for the traveling public. These problems need to be addressed by the FAA with the assistance of our air traffic controllers. Modern technology alone cannot reduce these hazardous flight conditions.

Professionally qualified air traffic personnel will greatly help eliminate unsafe air traveling conditions. Because of the anticipated growth in air travel, implementation of new technology and maximum utilization of qualified air traffic controllers are necessary to ensure a safer air travel service.

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